FOUNDED IN 1856

RAILWAY AGE

MAY 14, 1949

THE MILWAUKEE ROAD

TWIN CITIES HIAWATHA
NEAR WINONA, MINN.

THE MILWAUKEE ROAD is known for its Luxurious Modern Trains and well maintained track in which THE IMPROVED FAIR ANCHOR shares because of its Effective Performance

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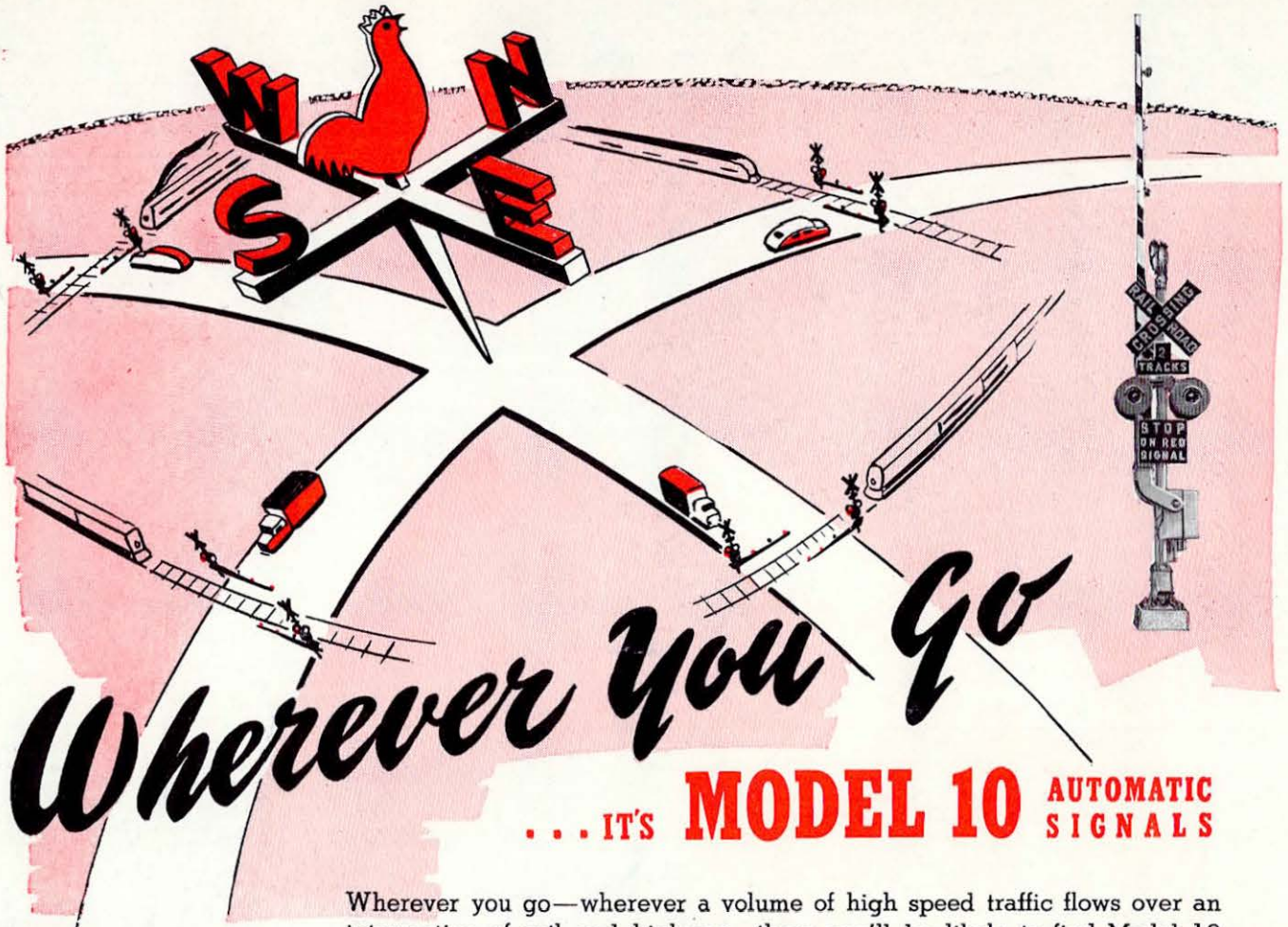

Wherever You Go

. . . IT'S MODEL 10 AUTOMATIC SIGNALS

Model 10 *design* has been imitated, but Model 10 *performance* never duplicated.

Write for brochure RA5-748

Wherever you go—wherever a volume of high speed traffic flows over an intersection of rail and highway—there you'll be likely to find Model 10 Automatic Signals faithfully performing their life-saving duty.

The widespread acceptance of these signals by nearly a hundred railroads, during a period of just thirteen years, can be explained in two words: ***OUTSTANDING PERFORMANCE.***

Outstanding performance — 24 hours a day, at thousands of hazardous crossings — has built for Model 10 signals a safety record unapproached by that of any other grade crossing protective device. *Outstanding performance* has earned for Model 10's *alone* the Certificate of Merit awarded by the New York Museum of Science and Industry. *Outstanding performance*—recognized by men determined to see grade crossing accidents eliminated — is the reason you find Model 10's wherever you go.

U. S. Pat. Nos. 2,137,196; 2,362,710, 2,372,579. Pat'd in Canada 6-27-39

• *Model 10 Signals began their remarkable contribution to grade crossing safety in June, 1936, when the first Model 10's ever used were installed at Harvey, Illinois. During the five years preceding this installation, there were 31 fatalities at railroad-highway crossings in Harvey — 14 of the deaths occurring at this crossing alone. Since Model 10's were installed here, NOT A SINGLE ACCIDENT HAS OCCURRED.* ***Since Model 10's have been installed at thousands of dangerous railroad-highway crossings, NOT ONE FATALITY has ever occurred as a result of operation failure.***

Model 10

AUTOMATIC GRADE CROSSING SIGNALS
PRODUCT OF
WESTERN RAILROAD SUPPLY COMPANY
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LEADING MANUFACTURER OF GRADE CROSSING SAFETY DEVICES — MAKER OF RAILWAY SIGNALING ACCESSORIES

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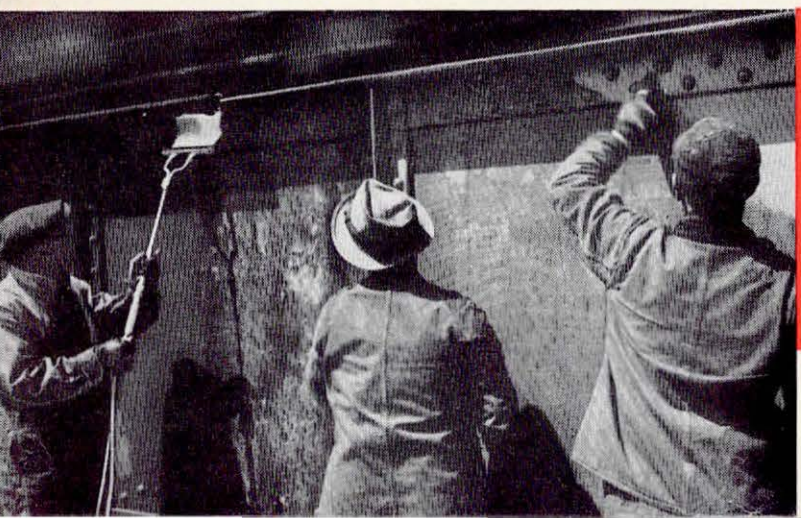

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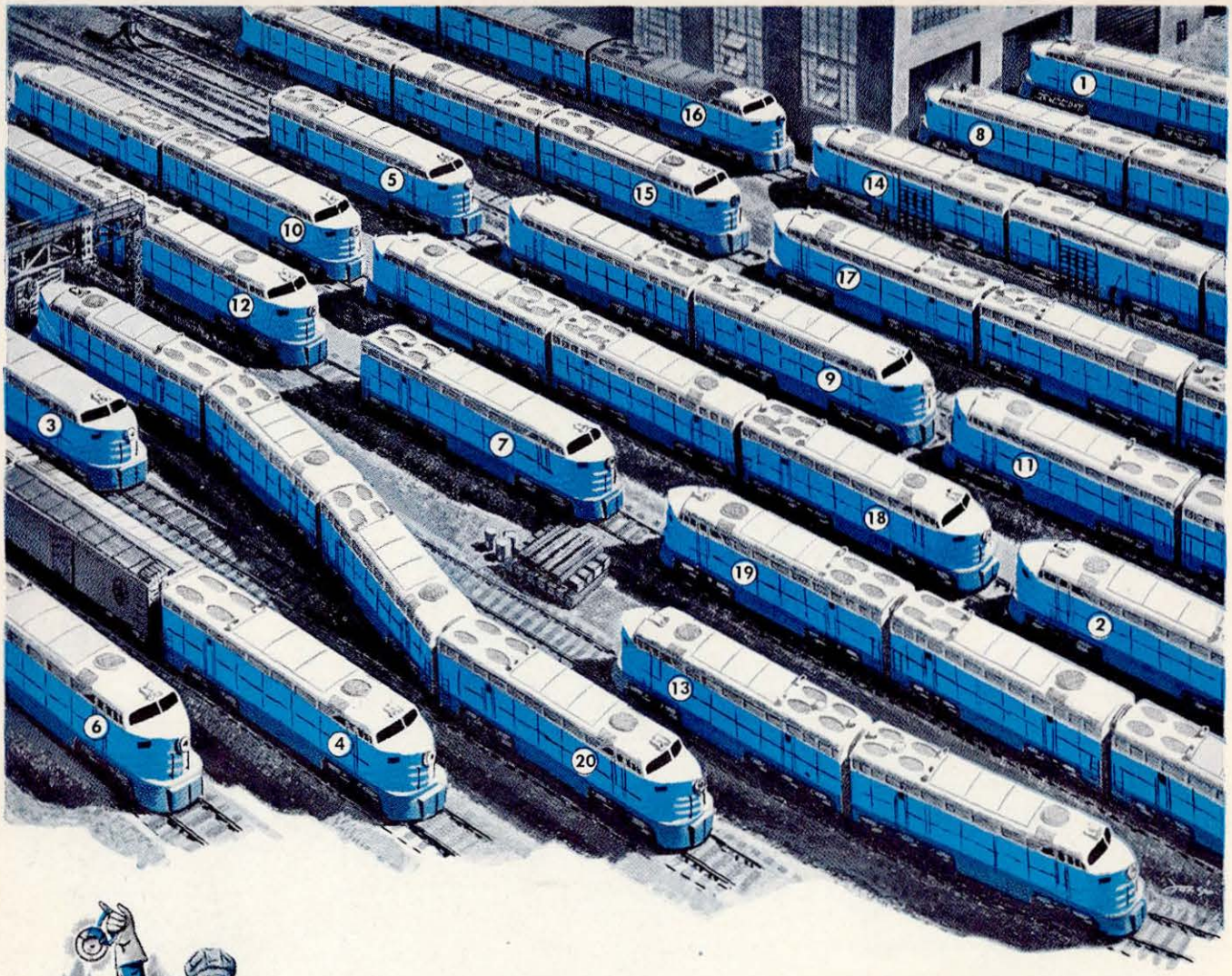

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. . . with the world's most complete line of diesel locomotives

Now . . . with the advent of the Fairbanks-Morse Consolidation Line of diesel locomotives, fullest conversion to diesel power is made possible and *practical* for every railroad.

Now . . . for the first time—for every range of loading, speed, distance and grade, there is a standard diesel locomotive available to replace its custom-built steam-driven counterpart.

Now . . . The "C" Line stands ready to broaden the basic benefits of diesel locomotive power for the railroads of the world and their customers.

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a name worth remembering

DIESEL LOCOMOTIVES • DIESEL ENGINES • STOKERS • SCALES • MOTORS
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7 2400 hp. Passenger (120 m.p.h.)
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9 4000 hp. Standard Passenger (100 m.p.h.)
10 4800 hp. All-purpose, Heavy, High Speed Passenger (120 m.p.h.)
11 4000 hp. Manifest Freight (65 m.p.h.)
12 4800 hp. High Speed Freight (65 m.p.h.)
13 4000 hp. Combination Freight & Passenger (85 m.p.h.)
14 4800 hp. Freight (65 m.p.h.)
15 6000 hp. Standard Freight (65 m.p.h.)
16 6000 hp. Combination Freight & Passenger (85 m.p.h.)
17 6000 hp. Heavy Mountain Passenger (100 m.p.h.)
18 7200 hp. High Speed, Heavy Mountain Passenger (120 m.p.h.)
19 8000 hp. Heavy, High Speed Freight (65 m.p.h.)
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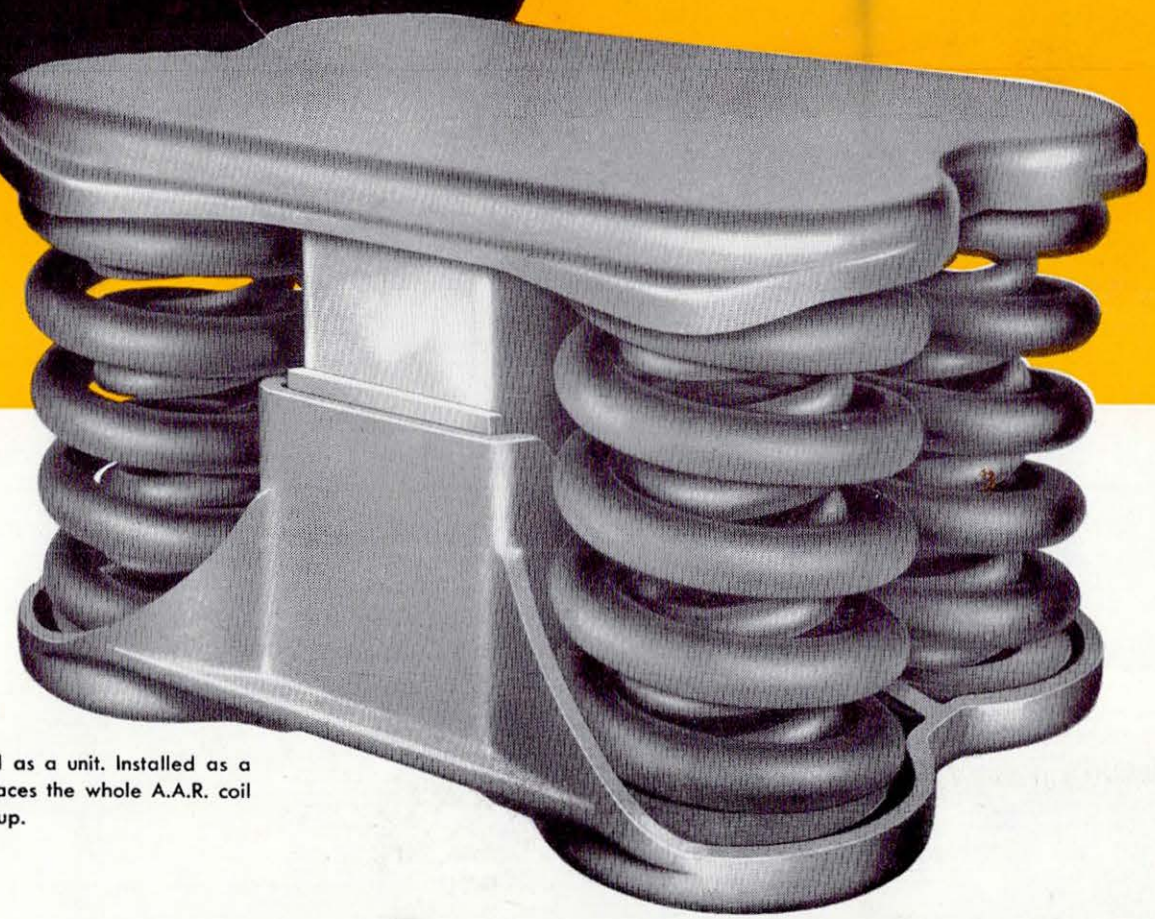
The "Package Way" is the *easy way* to modern lading protection—to economy in maintenance of both rolling stock and roadbed. Soft, long-travel springs cushion the load—absorb dynamic shocks. Constant, *uniform* friction smooths and controls all bolster motion. Convenient to handle. Simple to install. *Remarkably effective.* There couldn't be a better time than *now* to get the facts.



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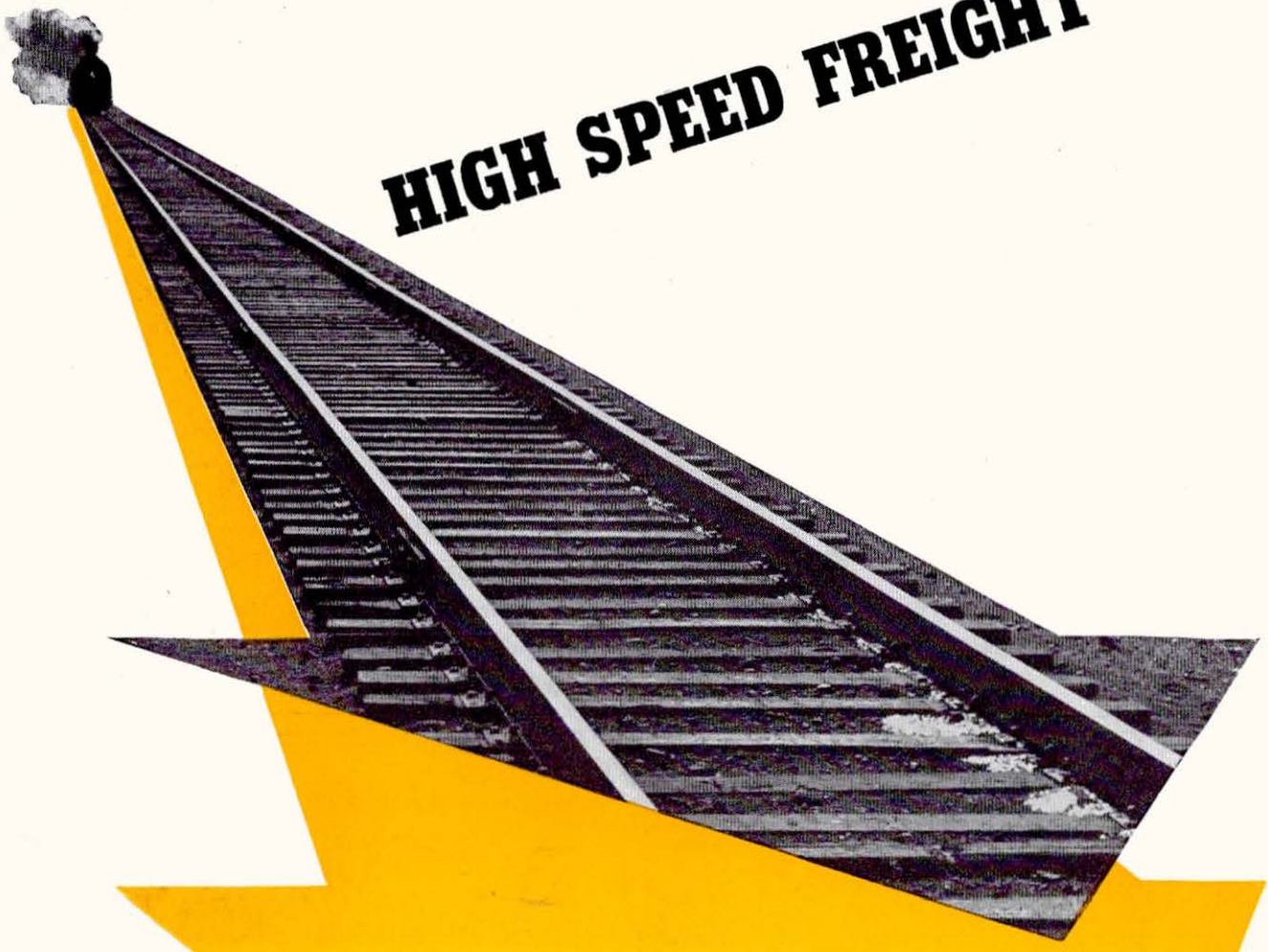
HIGH SPEED FREIGHT



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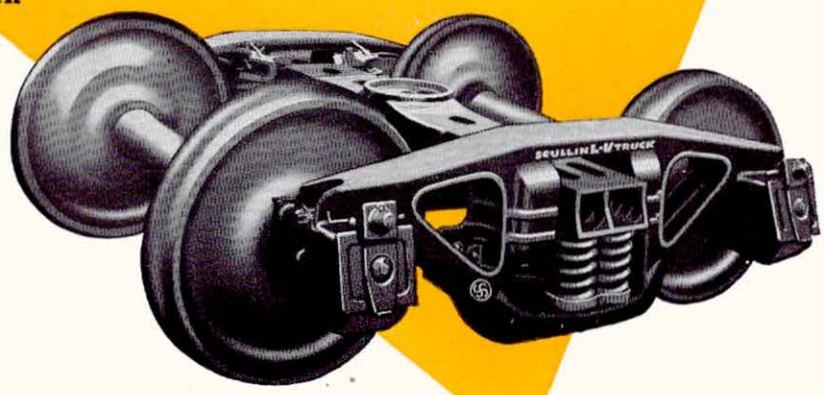
lateral and vertical shocks
by...



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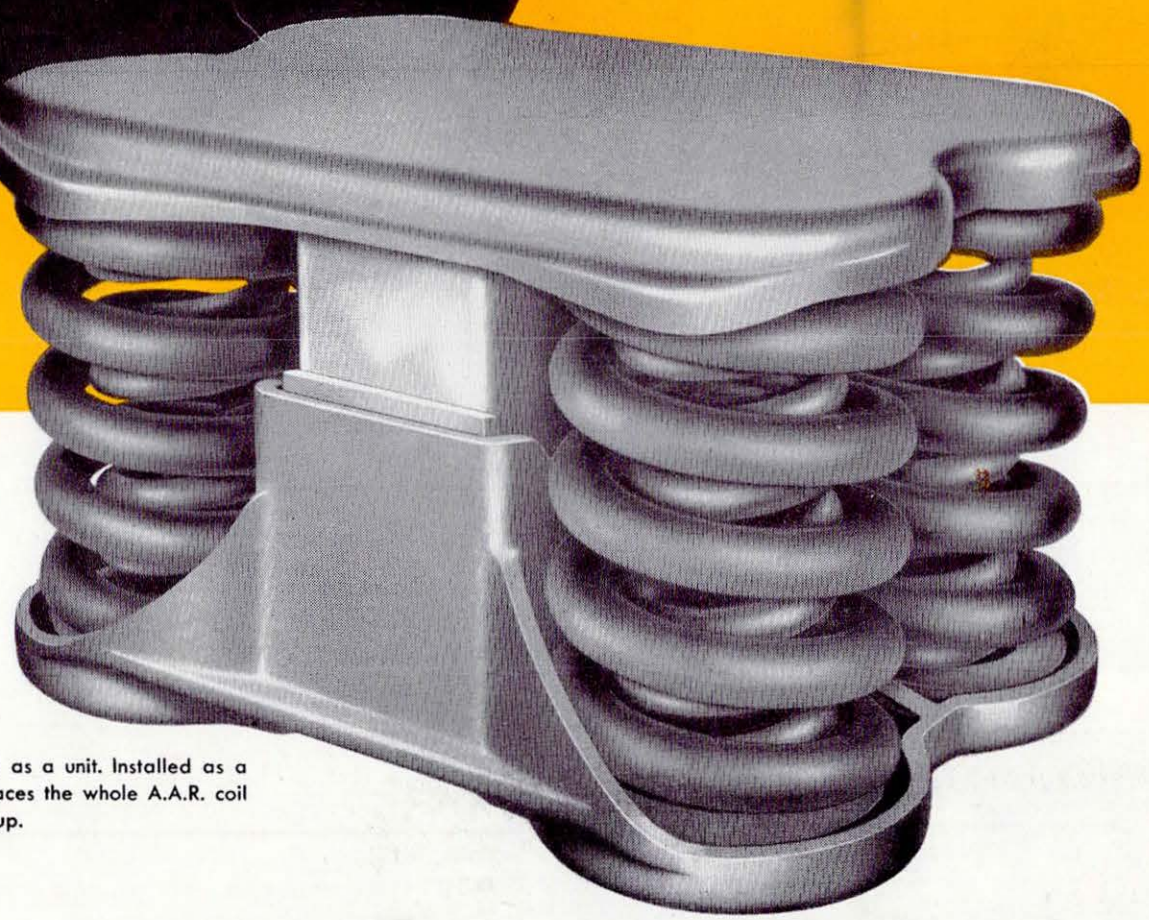

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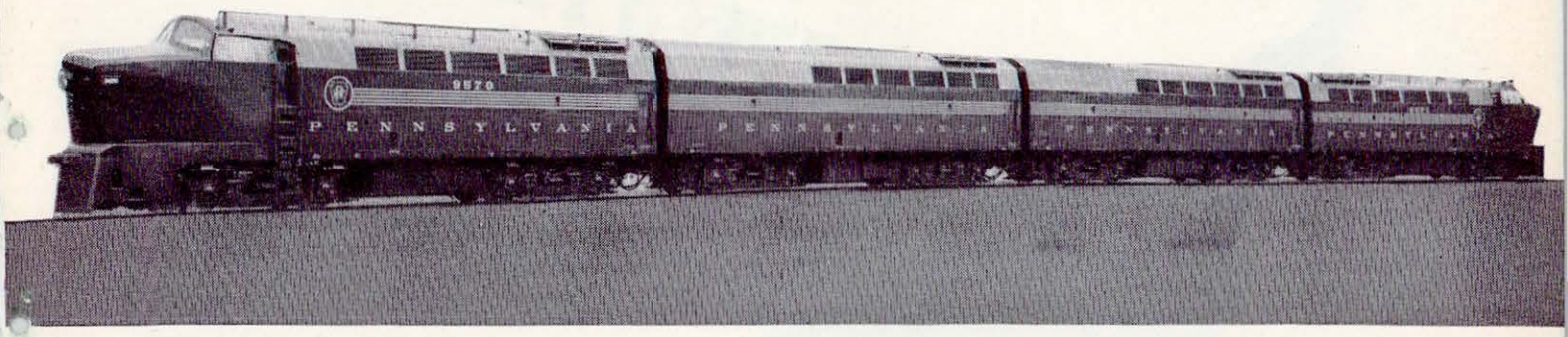
MINT MARK OF ⬡ FINE CAST STEEL

Baldwin Diesel-electric freight power for the PENNSYLVANIA



First of an order for thirteen 6,000-hp. Diesel-electric locomotives now being built by Baldwin for freight service on the lines of The Pennsylvania Railroad.

As builders of Diesel-electric, steam, steam turbine, and electric locomotives for all classes of service, Baldwin is in position to recommend the type of power best suited for your requirements.

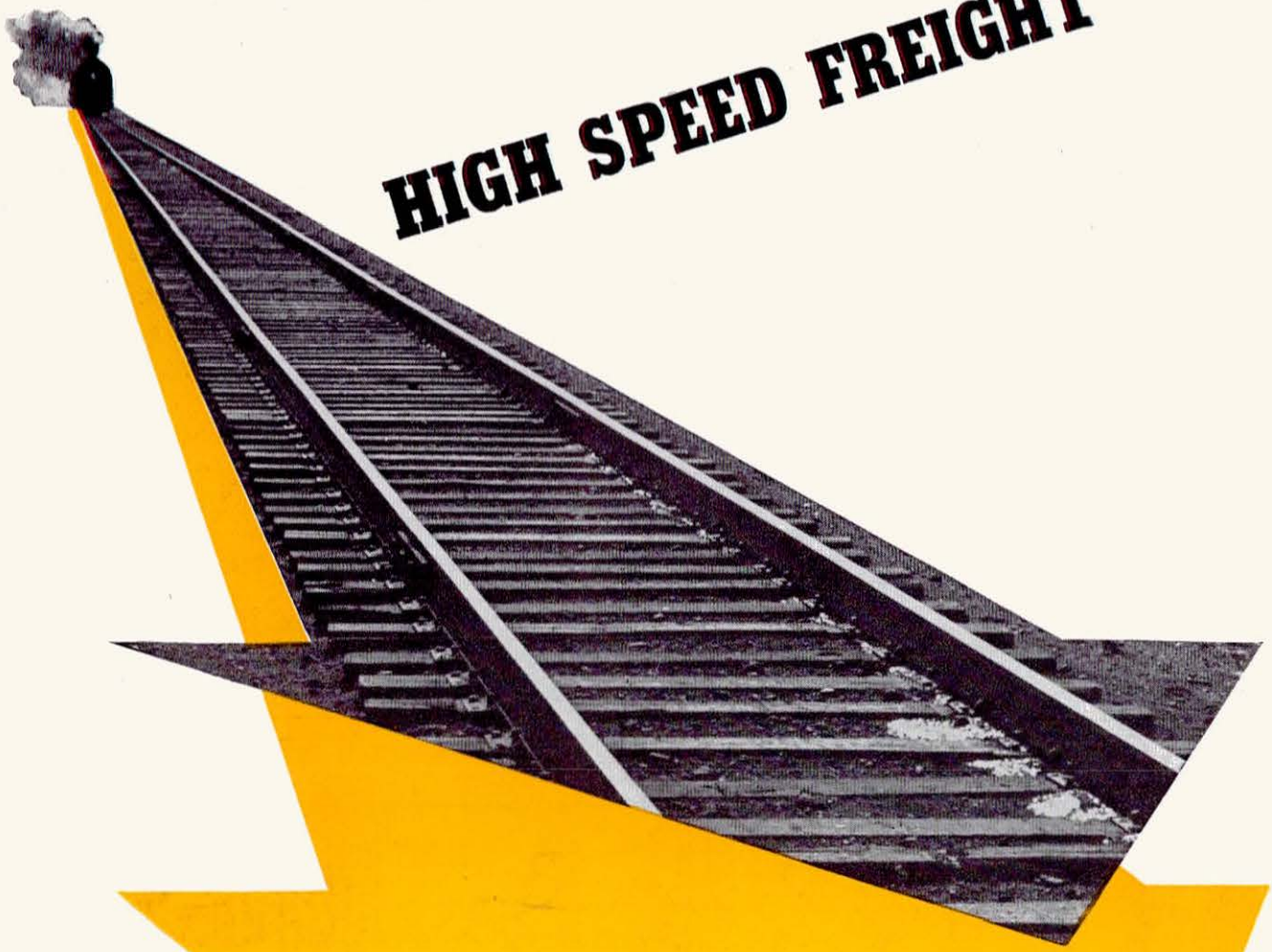
A Baldwin representative will be glad to discuss your motive power problems with you.

BALDWIN

LOCOMOTIVES

The Baldwin Locomotive Works, Philadelphia 42, Pa., U. S. A. Offices: Boston, Chicago, Cleveland, Houston, New York, Philadelphia, Pittsburgh, San Francisco, Seattle, St. Louis, Washington. In Canada: Canadian Locomotive Company, Ltd., Kingston, Ontario.

HIGH SPEED FREIGHT



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lateral and vertical shocks
by...

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LATERAL VERTICAL
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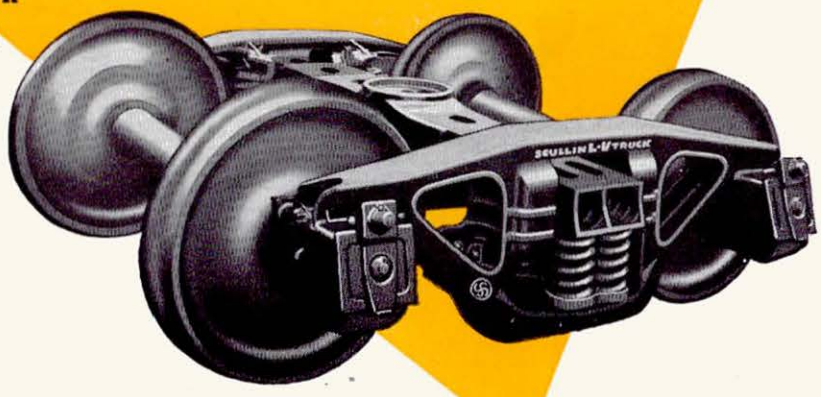

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You can do this with the new Underwood All Electric Fanfold Writing Machine . . . the new complete electric writing machine that has been especially designed to speed up and simplify the typing of multi-copy records.

The electric typing speed of this machine permits greatly increased production. You'll get better results faster . . . your multi-copy records will be ready *when you need them* . . . waybills, for example, will be ready to travel with the freight.

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First, easy finger-tip All Electric operation, plus exclusive Underwood automatic features, enable waybillers to do more work, in less time, with less fatigue . . . and with fewer errors.

Second, continuous forms with continuous carbon paper in rolls or long sheets eliminate the serious time losses caused when inserting and removing individual sets of loose forms.

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Mr. Fred H. Shaffer, Vice President in Charge of Operations,
St. Louis, San Francisco Railway Company

"Our Bendix Communications System, Over a Period of Two Years, Has Shown Approximately 50% Annual Return On the Investment"

The Frisco yards in Springfield, Missouri constituted a testing ground to prove, in actual competitive operation, the value of Bendix VHF radio communications. The tests were conclusive beyond a shadow of a doubt and the Bendix two-way radio system has been in constant use for two years. Here is what Mr. Fred H. Shaffer says about two-way train radio: "We tested every aspect of our Bendix communications system some two years ago. It has resulted in approximately 50% annual return on the investment plus the added convenience in contacting train crews."

"Specifically, Frisco has had two-way radio on industrial switch engines at Springfield, Missouri since 1946 with gratifying results. This efficient communication system enables the yard master to keep in close contact with switching crews at all times and to instruct the foreman relative to handling of last minute diversion orders, bad-order cars, change in switching list for industries and other matters that are constantly coming up in a busy yard. Likewise, the switch foreman can contact the yardmaster at any time and he can give prompt handling to all matters arising."

Here is another *factual* case history showing how Bendix train radio is saving time and money for the progressive railroads of America.

MORE RAILROADS USE MORE BENDIX VHF TRAIN RADIO THAN ALL OTHER TYPES COMBINED

Bendix V.H.F. Radio

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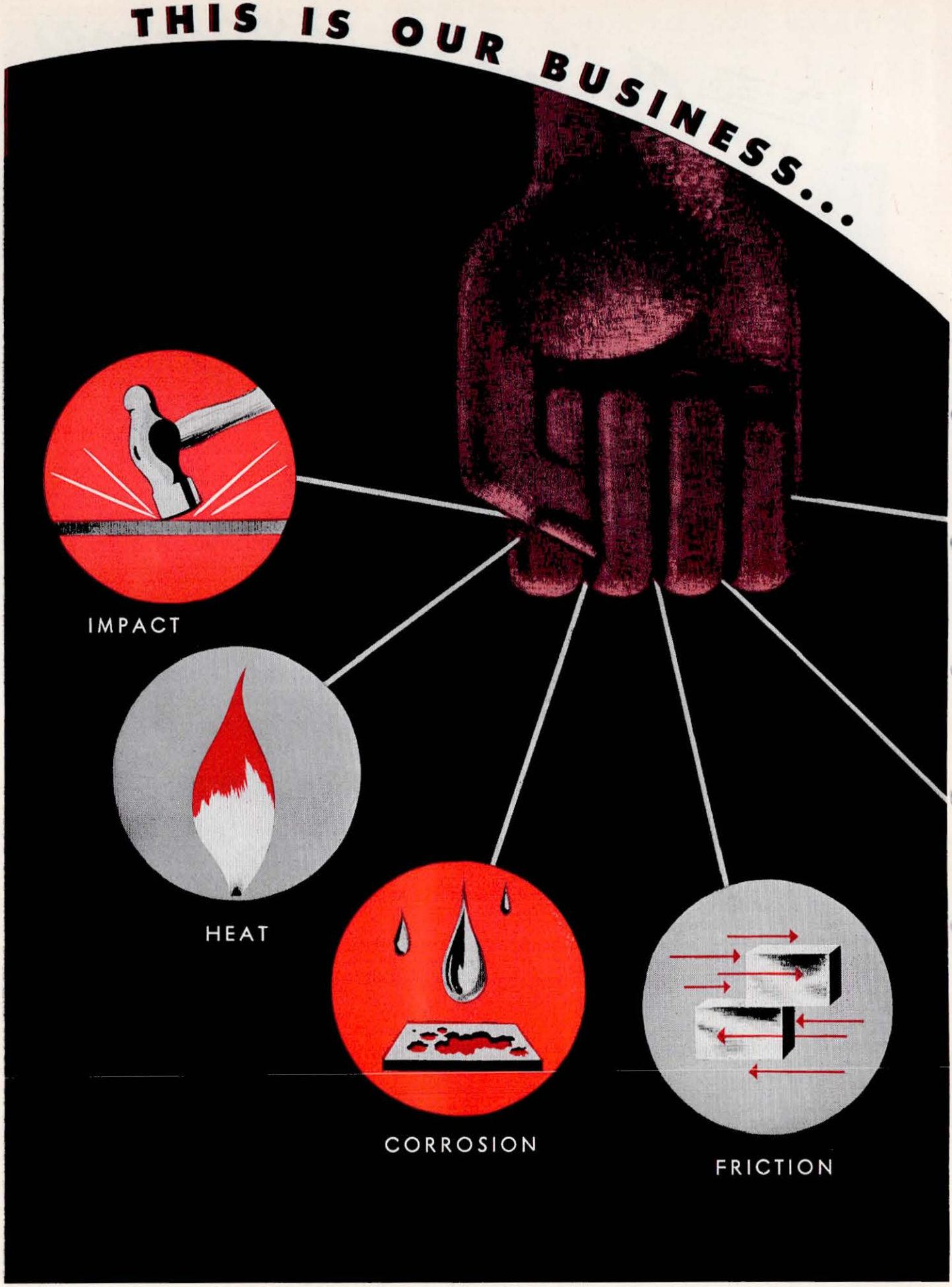
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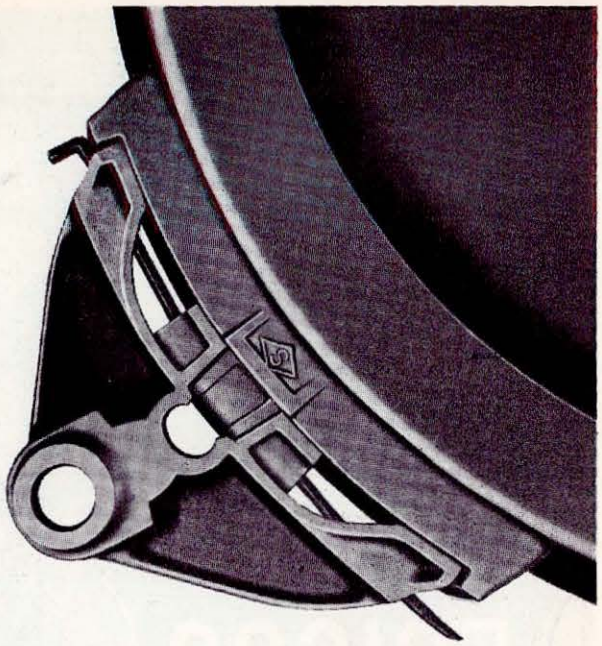

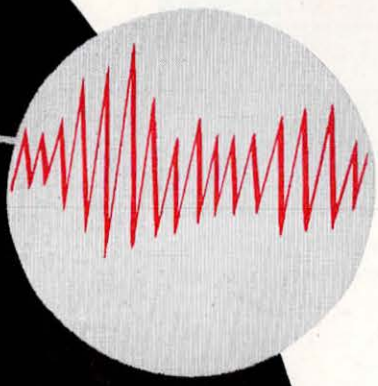

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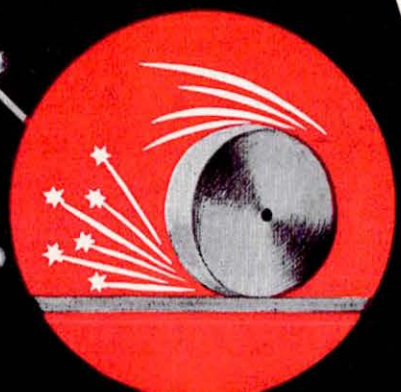

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This experience is reflected in brake shoes that are highly resistant to impact, heat, and vibration and which give the high coefficient of friction required by today's trains . . . also brake shoe lockeys with high resistance to corrosion for long and repeated use . . . and a large variety of abrasion-resistant castings.

Continuing research into the causes and control of industrial wear is an important part of our business. It's good business for you, too, because out of such study come products that last you longer and serve you better. The American Brake Shoe Company, 230 Park Ave., New York 17, N. Y.

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St. Louis, San Francisco Railway Company

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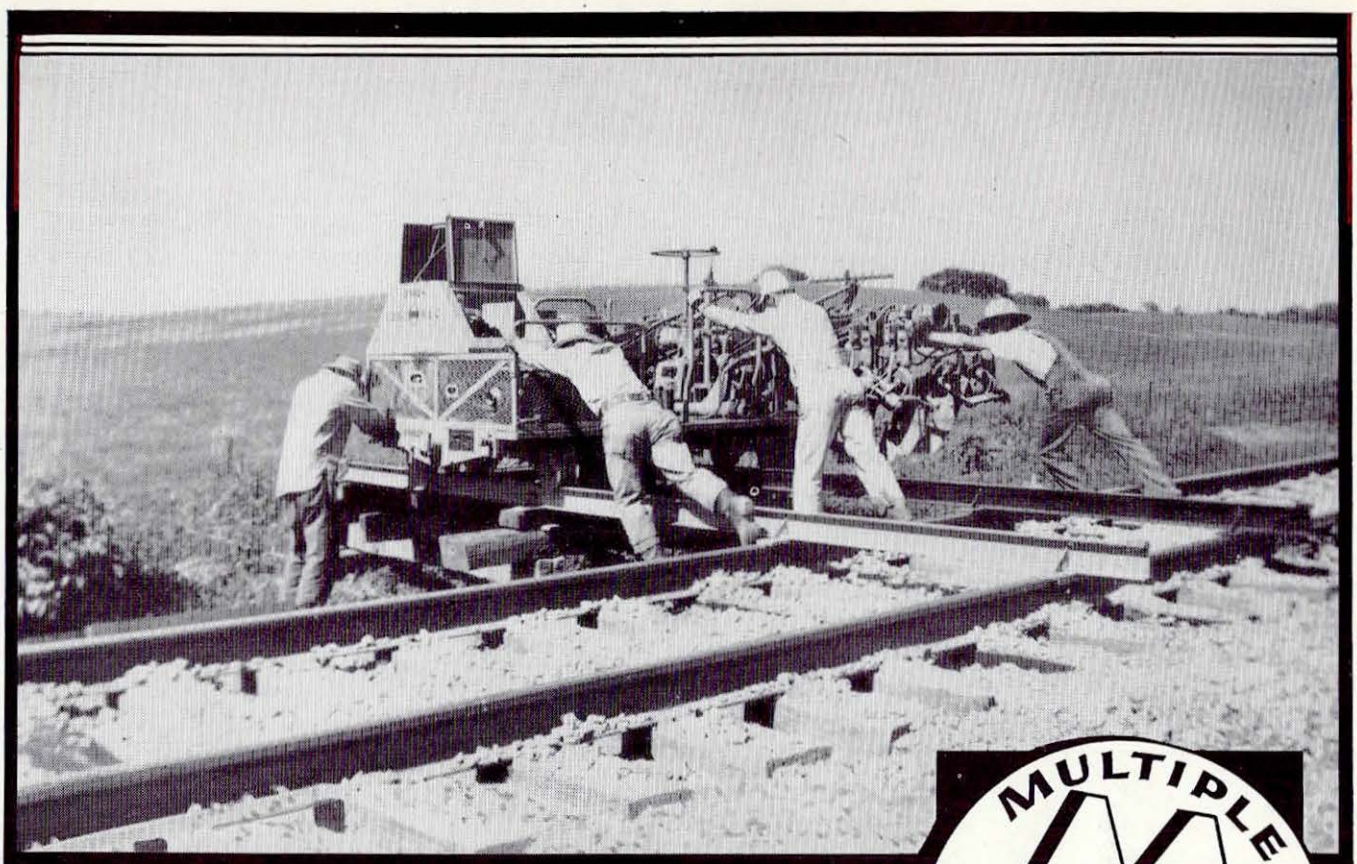

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MULTIPLE TAMPER

It takes just a minute or two to remove or replace the **JACKSON "M-T"**

This remarkable tie-tamping machine which is revolutionizing major ballasting operations is by no means limited to "dead track". Its comparatively light weight and speed of travel to predetermined set-off locations, coupled with the very little time required to remove it from, or replace it on the rails, makes its use thoroughly practical under average traffic conditions.

With its ability to put up perfect track in just ONE OPERATION—WITH JUST ONE TAMPER OPERATOR instead of 12 — IN ANY BALLAST, large or small, the results obtainable in terms of faster progress, better roadbed and labor savings are so amazing that no one responsible for maintenance of way can afford to ignore them. Let us give you the facts or the nearest location where you can see a JACKSON "M-T" at work.

ELECTRIC TAMPER & EQUIPMENT CO. Ludington, Michigan

Tough...Economical

LIKE THE VERMONTERS THEY SERVE

Management of two Vermont railroads praises 70-tonner versatility and hauling capacity

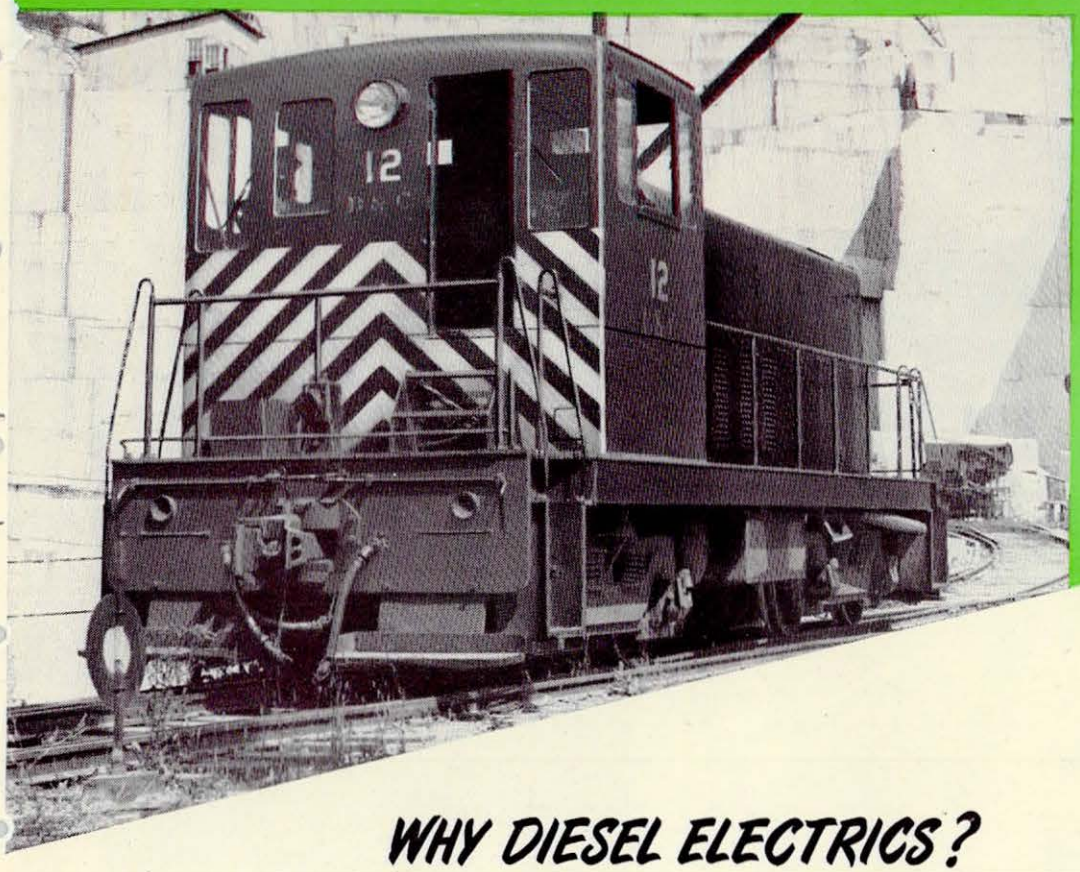
Two important New England railroads are handling more freight in less time than ever before. They're doing it with seven new 600-hp, 70-ton diesel-electrics —only half the number of steam locomotives previously employed. Thus, the management of the Barre and Chelsea and the St. Johnsbury and Lamoille County Railroads have materially reduced maintenance and operating expenses.

ST. JOHNSBURY
AND LAMOILLE COUNTY

The 70-tonner's light weight and high horsepower is particularly suitable for operation within the 50,000 pound axle load limitations of five covered wooden bridges still in use on the "St. J." since it permits a 30 per-cent safety factor. The 96-mile railroad includes a winding 19-mile climb with a maximum grade of 2¾ per cent.

Alco GE

AMERICAN LOCOMOTIVE



BARRE AND CHELSEA

This B. and C. 70-ton diesel-electric hauls empty flat cars up a six percent grade to the top of Barre mountain and spots them at the quarries. Later, up to 1600-ton trainloads of granite are moved down the steep grade under complete control through a switchback to the city of Barre, Vermont.

WHY DIESEL ELECTRICS?

HERE ARE THE REASONS

High horsepower with light axle loading place the 70-tonner safely within light bridge loading limits, permit safe and dependable operation over light rail. In addition, track maintenance has been reduced considerably.

Because the 70-tonners are equipped with multiple control, they can be used alone or in combination with great flexibility to handle all operating requirements, eliminating the need for three locomotive types and practically eliminating overtime operation.

Since only one diesel-electric size is required (replacing three steam sizes), only one spare parts stock is now needed and a substantial investment in repair facilities was avoided.

Operating economy is already reflected in fuel and maintenance savings. In addition, the clean, safe operation of the 70-ton diesel-electric is an important factor in community and employee relations.

These are only a few of the reasons for diesel-electrics on these two railroads. Many of them are pertinent to your operations. Why not ask your Alco-G.E. representative for more information?

IN CANADA Alco GE IS MLW GE

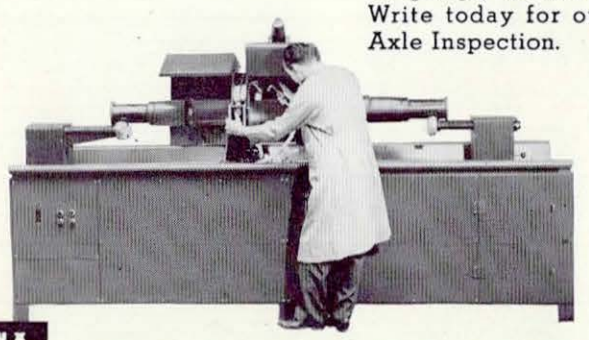
and GENERAL ELECTRIC

121-52

Are Your Axles Fit to Travel?

While the axle in the illustration looked perfectly good to the naked eye, inspection by the Magnaflux* Unit illustrated below showed up its weakness. The glowing fluorescent line you see in this view under black light, indicates an *invisible* fatigue crack. Quick, simple inspection with Magnaglo* keeps an unfit part from endangering the safe operation of rolling stock, by using magnetic forces to build up these highly visible indications of the defects which develop in service.

More than 60 busy railroad car shops now integrate Magnaglo inspection with their regular work. Check into the many benefits gained by inspecting axles, side frames, couplings, wheels and other car parts with Magnaflux. Write today for our illustrated folder on Railroad Car Axle Inspection.



XRTL and RTL Magnaflux units for Magnaglo inspection are built especially for railroad car shops to increase the economy of your operations and contribute to safety with your rolling stock.

MAGNAFLUX CORPORATION

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"The men like to work with **penta**-chlorophenol treated poles! —THEY'RE CLEAN!"

Workmen, who maintain communication and power lines, enjoy working with poles that have been given the PENTA-chlorophenol treatment. This modern wood preservative leaves poles clean and easy to handle.

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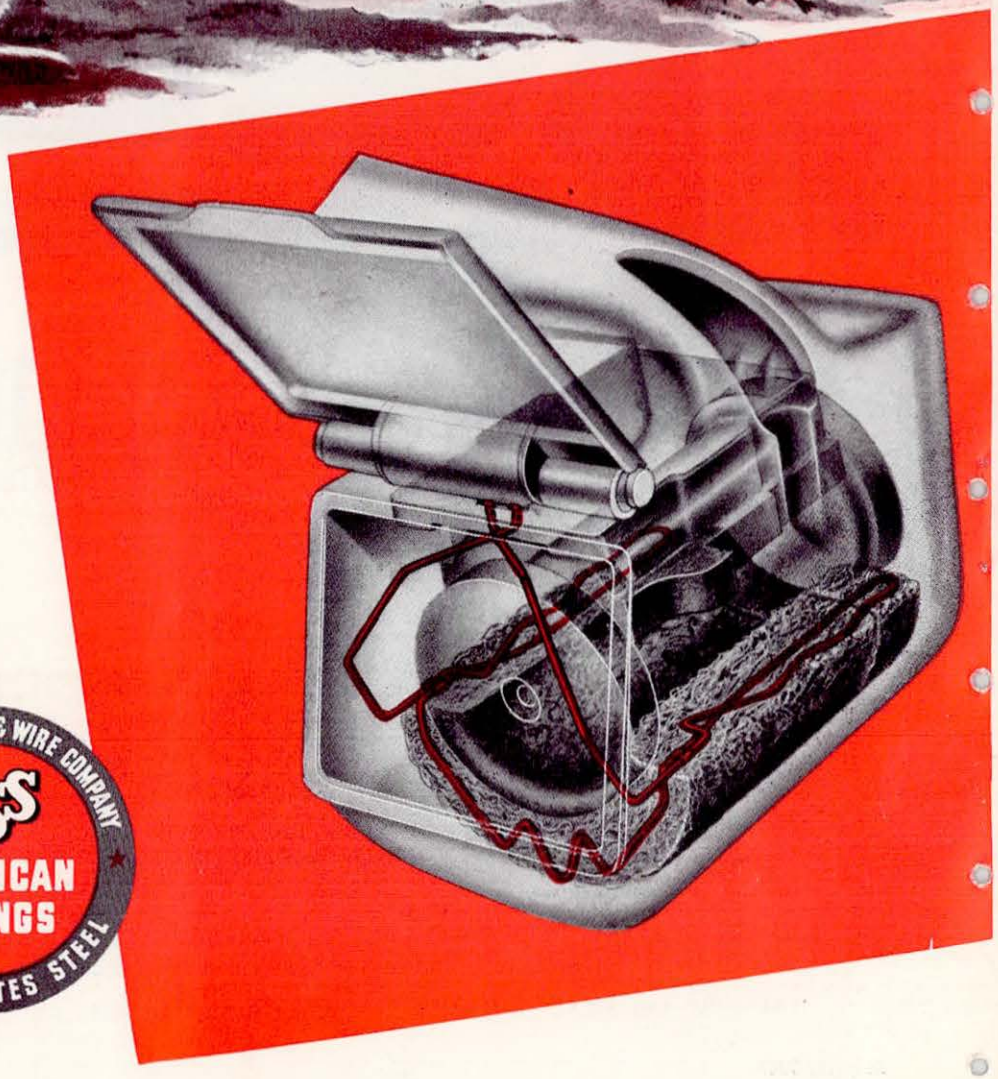

Made of finest, oil-tempered, steel spring wire. Specified range of Rockwell C46-48.

Annealed in special furnaces to relieve stresses set up in manufacturing.

Easy to install . . . easy to remove. No changes required in standard journal box assembly.

AMERICAN STEEL & WIRE COMPANY
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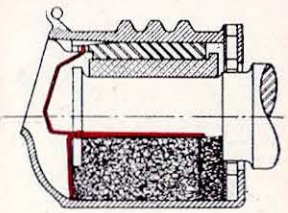
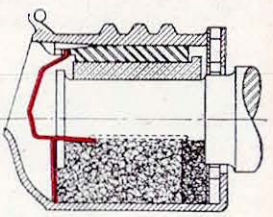
Overdue Freight!

Costly Train Delays Now Reduced with the Improved

HOLD-RITE Packing Retainer



View of "Standard" style Hold-Rite Retainer with fingers reaching full length of journal.



View of "Short" style Hold-Rite Retainer with stub fingers reaching from journal collar to cast-in retainer rib.

● HOT BOXES stop railroad traffic and cause serious financial loss. *Improved* Hold-Rite Packing Retainer design has resulted in large savings to many railroads because of fewer train delays due to hot boxes and less time spent in servicing.

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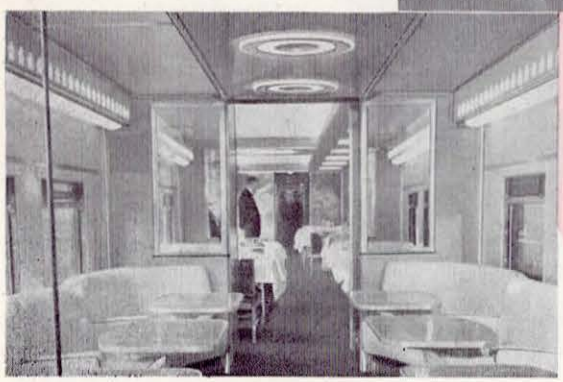

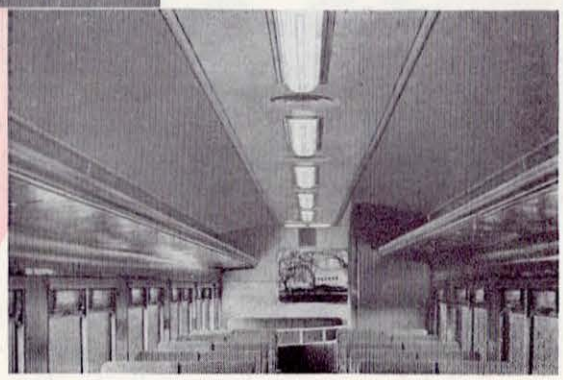

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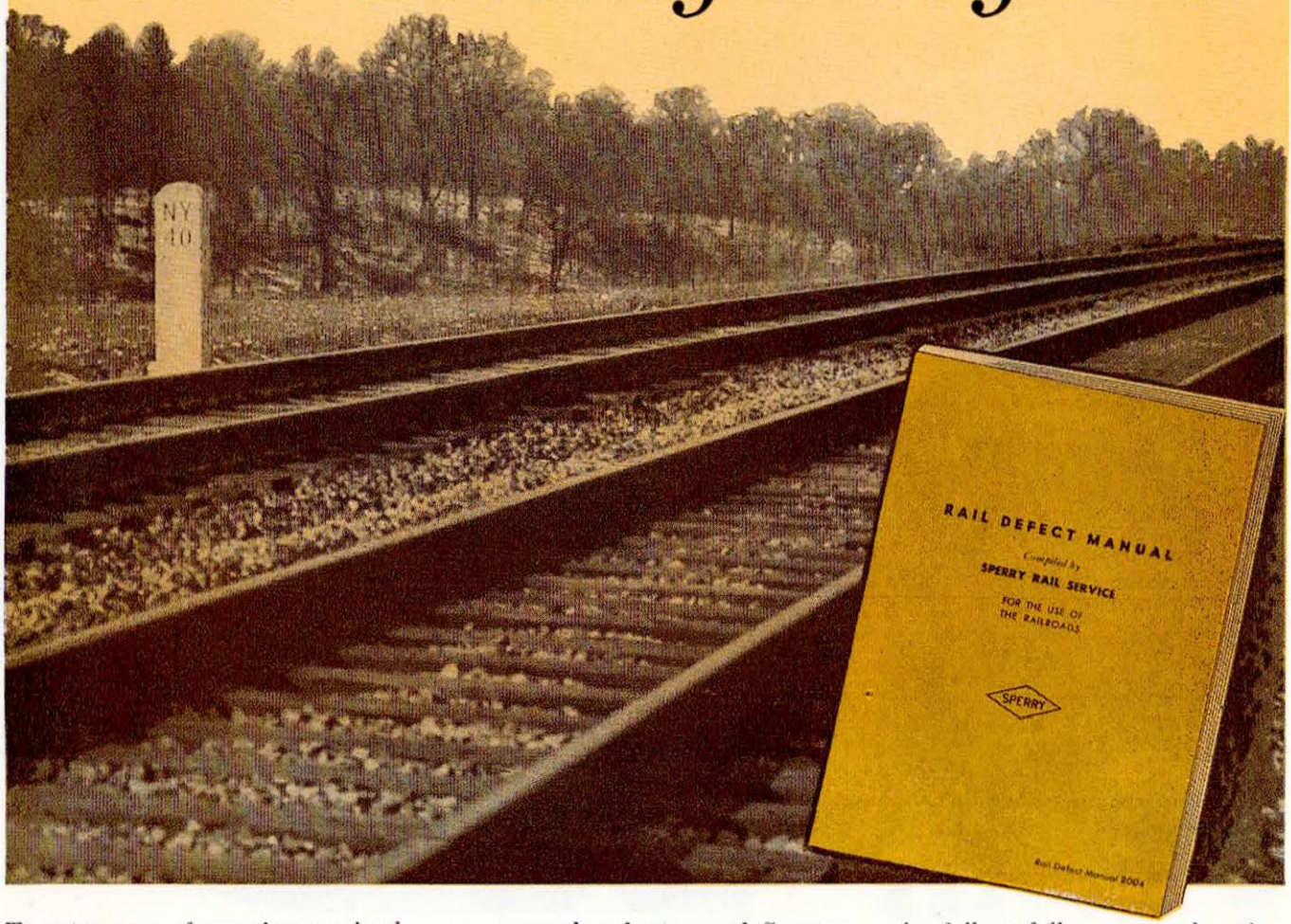
*How Sperry Service Contributes to Railroad Safety

ANOTHER MILEPOST IN *Rail Testing Progress*



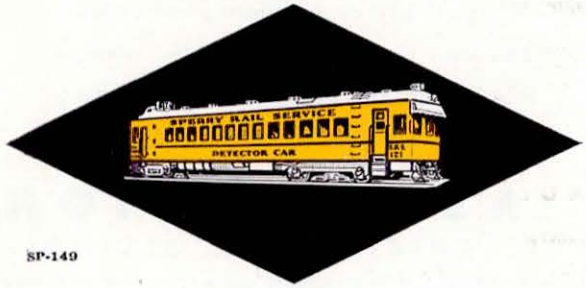
Twenty years of experience gained from testing two million miles of rail in track—data compiled from one million defects found by Sperry Detector Cars—all are contained in a brand-new handbook with a familiar title—the Fourth Edition of the Sperry *Rail Defect Manual.*

Long a standard reference of track personnel, the *Rail Defect Manual* is the only comprehensive handbook of up-to-date information on the occurrence and classification of rail defects. It is published as a regular feature of Sperry Service.

The *Rail Defect Manual* is one of many exclusive Sperry activities which go far beyond the actual locating of defects in track. These include a continuing program of research and development of new equipment, centralized quality control of each test, compilation of testing statistics, publication of the only journal devoted to rail testing — the "Sperry Review," instruction and data sheets, service-failure follow-up, and active participation in rail-breaking programs.

Each one of these activities is an important part of the Sperry testing program. Together, they contribute to the twenty-year Sperry record of finding *more* and *smaller* transverse defects, as well as more longitudinal defects than any other method of testing rail in track.

The *Rail Defect Manual* will be mailed to railroad executives upon request. Write for your copy today.



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...built to last under severe salt water exposure

COVERING an over-water area of ten acres, the new Norfolk and Western Railway merchandise pier at Lambert Point, Norfolk, Va., is supported by 5,406 concrete piles averaging 70 ft. in length. These piles had to be designed to withstand severe exposure and salt water action. This was accomplished by using a relatively rich mix (1:2½:3½ with 5½ gal. of water per sack of cement).

Designing durable concrete piles is another application of the well-defined and thoroughly-tested principles and procedures of quality concrete construction. These principles and procedures are the key to strong, enduring concrete that performs satisfactorily under any climatic, soil, water or service condition.

For complete details about quality concrete write for a 70-page book, "*Design and Control of Concrete Mixtures.*" If you'd like more information about concrete piles, send for 80-page illustrated book, "*Concrete Piles.*" Both are free but they are distributed only in the United States and Canada.

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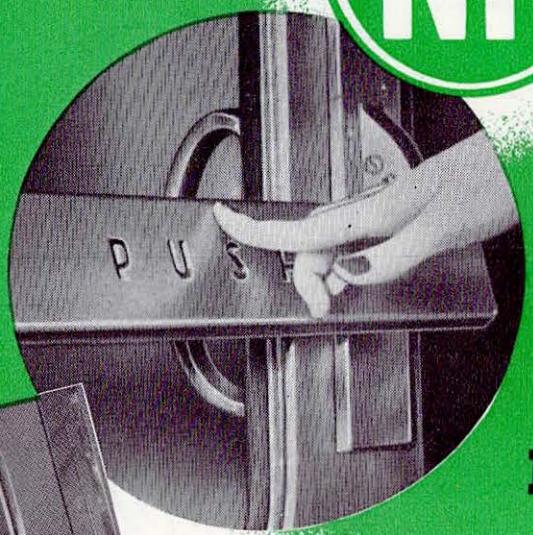

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The "modern magic" in the action of NP *Automatic* End Door Operators is finding wide acceptance among railroad men alert to improving relations with their traveling public. For few passengers can resist the convenience of end doors that open as if by magic . . . *at mere fingertip pressure!*

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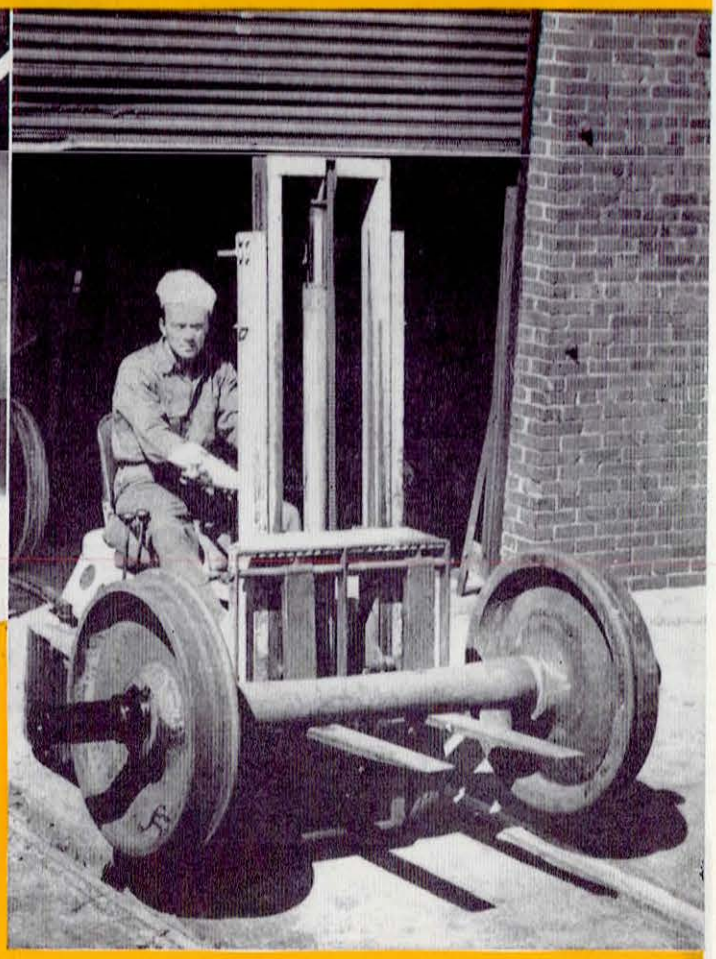
INSIDE YOUR PLANT...OUTSIDE IN YOUR STORAGE YARD



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THE SAME TRUCK—the rugged, dependable "little" work horse, the HYSTER "20"—operates EQUALLY AS WELL *inside your plant* AS *outside in your* storage yard.

HEAVY DUTY INDUSTRIAL TYPE PNEUMATIC TIRES give the Hyster "20" greatly increased traction, ramp climbing ability, cut down on floor and paving repair and maintenance costs, make higher truck speeds more practical and safer, are easy on the load and driver—EITHER INDOORS or OUTDOORS.

HYSTER "20" HAS GREATER MANEUVERABILITY because of Hyster's patented turning counterweight around the trunnion mounted rear steer wheel; low center of gravity which increases stability; easier steering, rounded rear end.

THE MOVEMENT OF MORE MATERIALS in crowded areas — EITHER INDOORS OR OUTDOORS is done *quickly, efficiently* with the Hyster "20" (2,000-lb. capacity).

CURRENT DELIVERY . . . See your Hyster distributor. Write for literature.

REASONS WHY HYSTER "20" MOVES MORE MATERIALS...

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- ✓ Maximum operator visibility.
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- ✓ Special Load-Grab arms available for handling bales, boxes, bundles, bags, barrels, oil drums—without pallets.

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We manufacture all the various AISI steels as well as special grades of alloy steel for every purpose.

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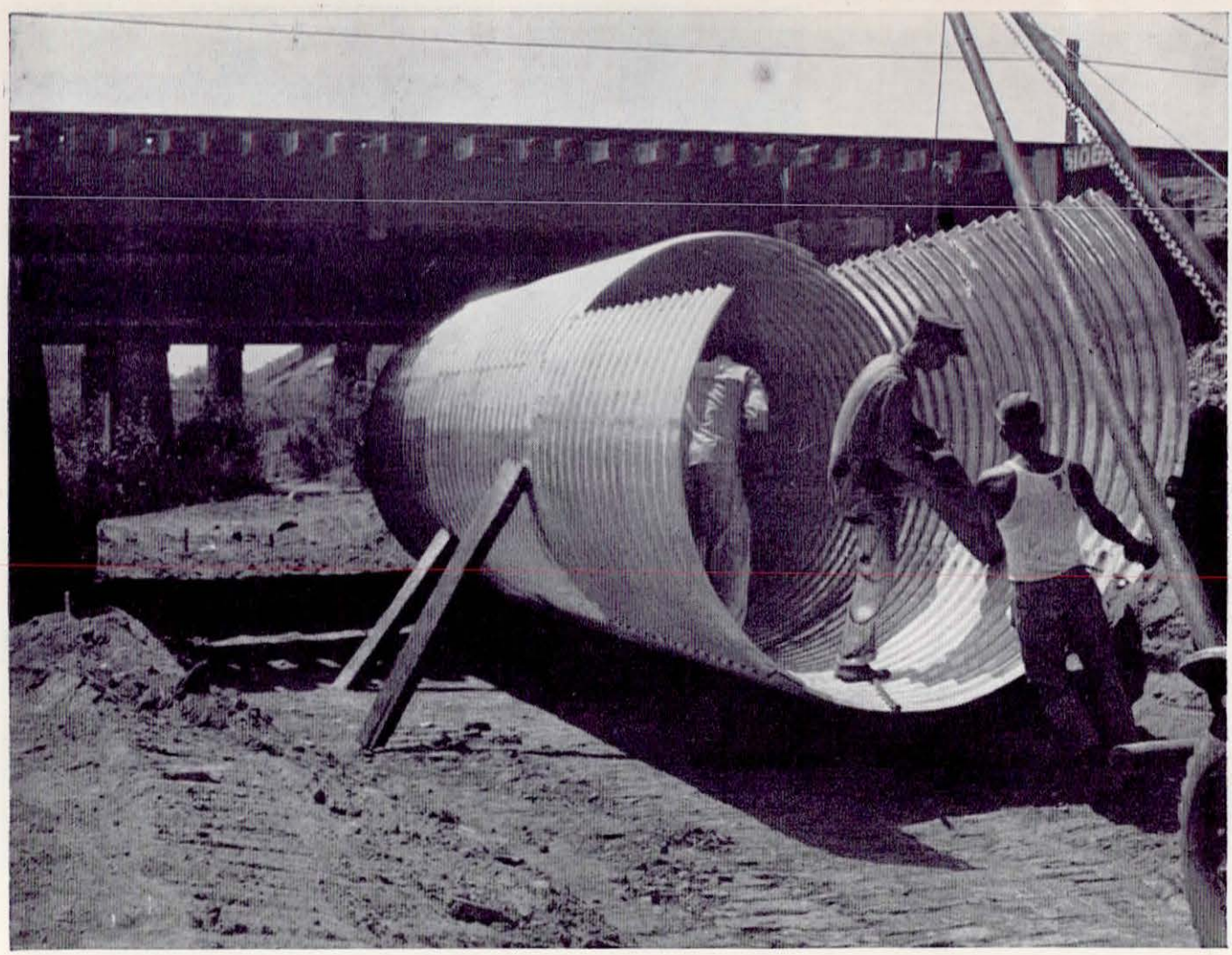

CUTTING DRAINAGE COSTS IS LIKE PLAYING GOLF

"Matched Clubs" mean better results for the golfer. In drainage, your "matched set" of ARMCO Corrugated Metal Structures means you get exactly the right structure to do the job. Here's how it works to save you time, money and labor.

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You'll find that all ARMCO Structures are easy to install with just a small, unskilled crew doing the work. There is no need for special tools or heavy equipment. The completed structure will provide years of durable service with little or no maintenance. Write today for complete information and be ready for that next job. Armco Drainage & Metal Products, Inc., 1915 Curtis St., Middletown, O.

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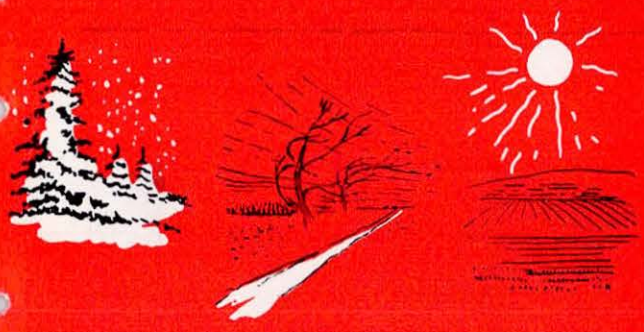
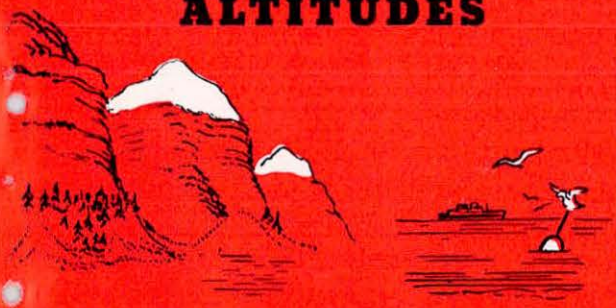


CLIMATES

ALTITUDES



In addition to new installations, it is extremely PRACTICABLE and ECONOMICAL to replace old windows with Edwards Double Glazed Units. Plan now to modernize your equipment with Edwards Sash. For complete information, write:

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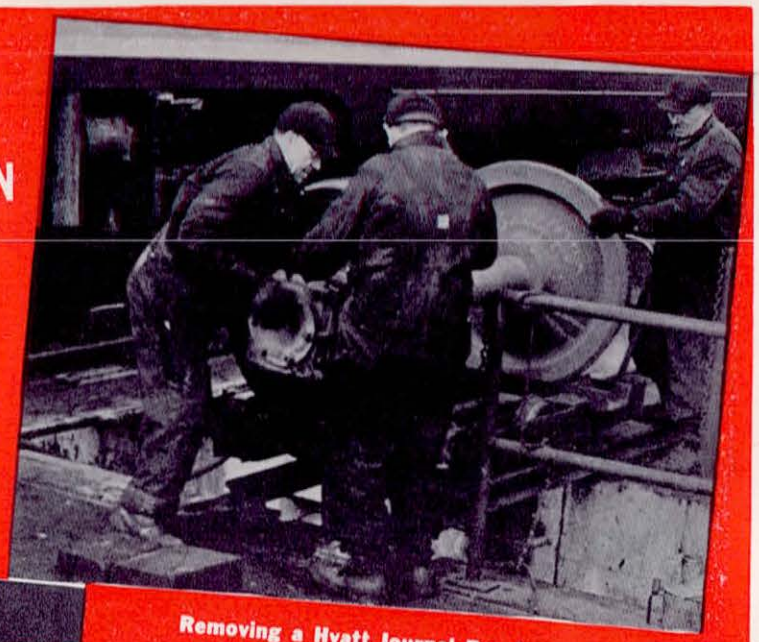
THE EYES OF TRANSPORTATION

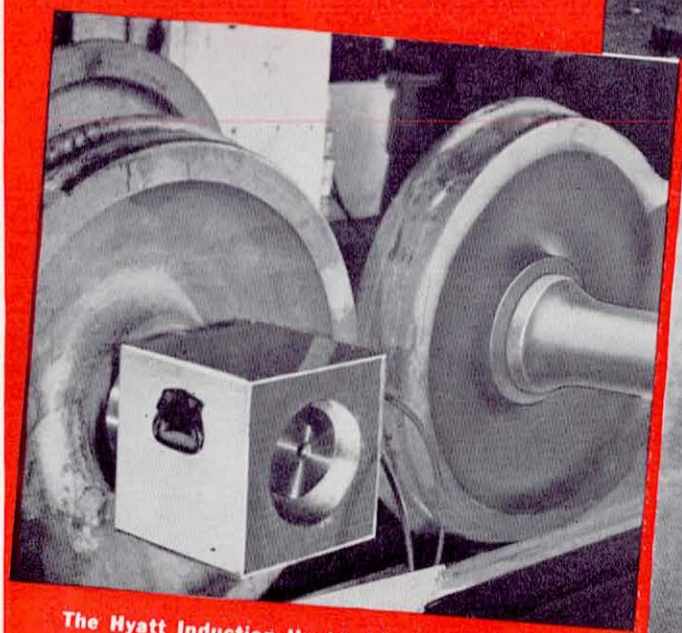
SASH FOR EVERY TYPE OF TRANSPORTATION—ON LAND, ON THE SEAS, IN THE AIR

FOR COMPLETE MAGNAFLUX INSPECTION

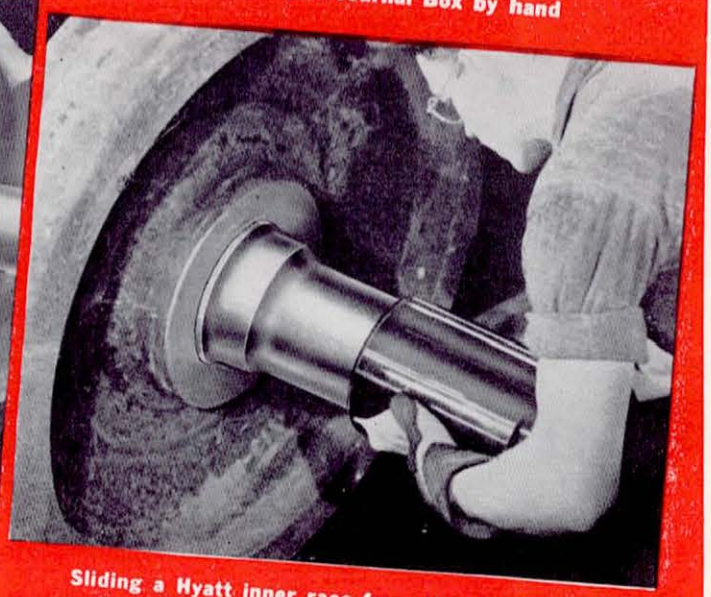
"It's easier with HYATTS"



Removing a Hyatt Journal Box by hand



The Hyatt Induction Heater in place on a journal



Sliding a Hyatt inner race from the axle by hand

Did you ever stop to consider how much easier it is to strip a Hyatt-equipped axle for complete magnafluxing?

The boxes slide off the axles, ever so easily, without special tools, leaving only the inner races which can be removed in a matter of seconds with a Hyatt Induction Heater. After heating, the races expand sufficiently to slide off easily at hand pressure; all danger of scoring axles is eliminated. No press or special collar is necessary.

Yes, it's easier all around with Hyatts—easier to apply—easier to remove—easier to inspect—easier on the passenger and easier on railroad maintenance budgets. Write for our new induction heater folder. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT ROLLER BEARING JOURNAL BOXES

Vol. 126, No. 20 May 14, 1949

RAILWAY AGE

With which are incorporated the Railway Review, the Railway Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office and Trade Marks Office in Canada.

IN THIS ISSUE

EDITORIALS:

Railways' Earnings Made Poor Start in 1949 35

Yard Limits in C.T.C. 36

Non-Skid Footing Needed in Stock Cars 37

GENERAL NEWS 59

REVENUES AND EXPENSES OF RAILWAYS 76

GENERAL ARTICLES:

Car Records on Tabulating Equipment, by D. J. Spowart 38

C.N.R. Has Cut Expense In Taking Inventory 41

Machines Prorate Freight Revenues, by J. G. Wormick 42

Test of Coach Temperature Controls 45

M. W. Smith New President of Baldwin 49

Special "Pits" Aid Freight Car Inspection 50

Rail and Tie Purchases Up from Last Year 53

New and Improved Products of the Manufacturers .. 55

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"Union" Switch Stands safeguard facing point moves by providing these extra safety features *in one mechanism:*

(1) A standard *lock rod* which mechanically locks the switch in the normal position.

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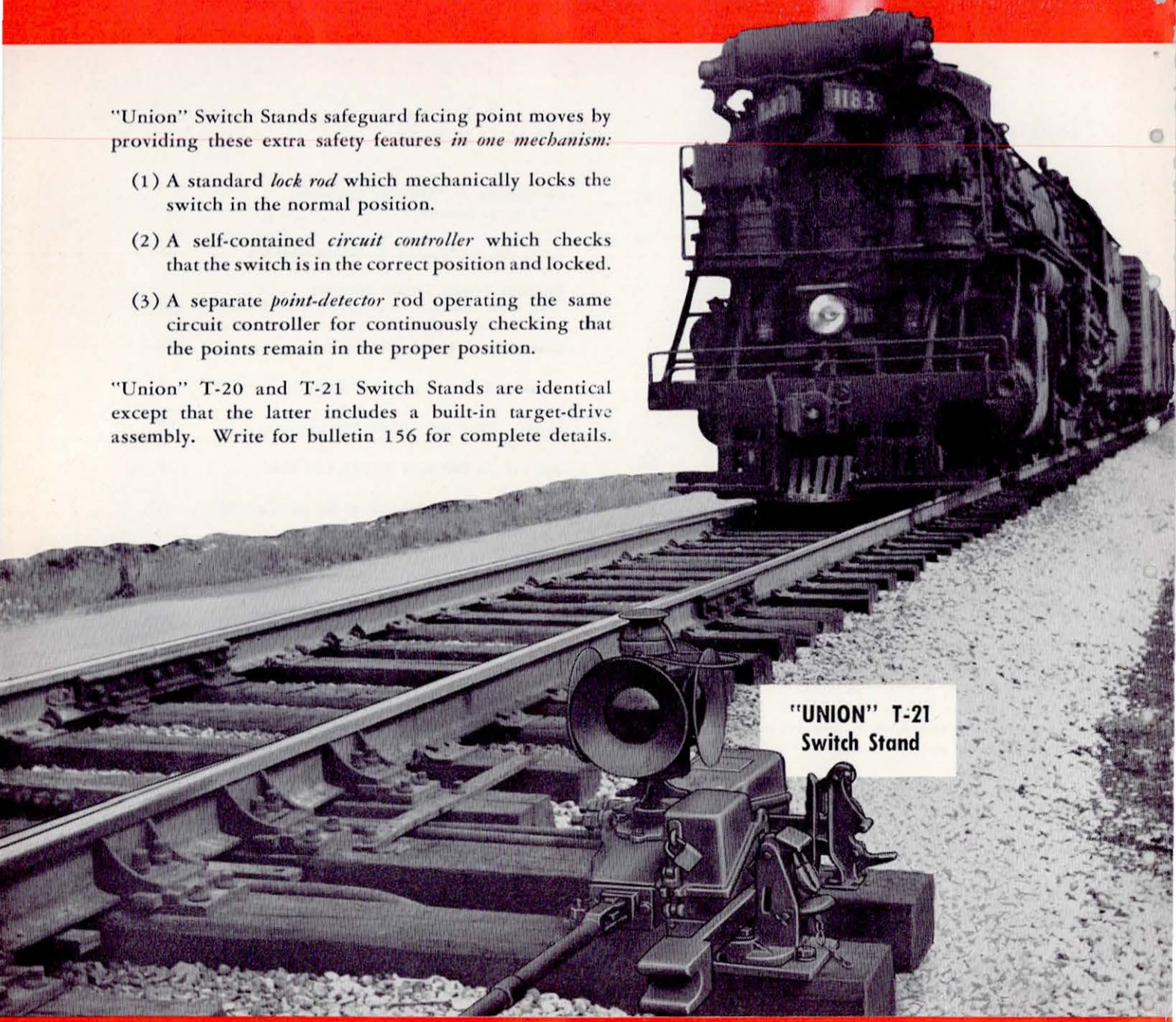
(3) A separate *point-detector* rod operating the same circuit controller for continuously checking that the points remain in the proper position.

"Union" T-20 and T-21 Switch Stands are identical except that the latter includes a built-in target-drive assembly. Write for bulletin 156 for complete details.



"UNION" T-21 Switch Stand

UNION SWITCH & SIGNAL COMPANY

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WEEK AT A GLANCE

NEXT WEEK: The 1949 Freight Progress issue of *Railway Age.*

SPOTLIGHT ON ATLANTIC CITY: Next week also, from May 16 to 19, inclusive, at Atlantic City, N. J., the Railway Accounting Officers will hold their 55th annual meeting, with a number of railroad presidents also expected to be on hand as guests and observers. The time- and labor-saving, cost-reducing, and efficiency-increasing potentialities of modern mechanical accounting and bookkeeping machinery—much of which will be on display during the meeting—is sure to be a major topic of discussion.

MODERN METHODS: In recognition of the accounting officers' convention, we include in this issue several articles, all illustrated, of special interest to the men who prepare the statistical tools without which no management can successfully operate any company. In one, starting on page 38, D. J. Spowart, superintendent of car service of the Western Pacific, tells how his company uses tabulating equipment to prepare mechanically per diem reports, train-hour reports and other transportation statistics. A brief article on page 41 describes methods employed by the Canadian National to reduce time, money and possibility of error in taking inventory. On pages 42-44, the Reading's method of prorating freight revenues by machine is described by J. G. Wormick, auditor of revenues. And, beginning at page 55, there are illustrated descriptions of a whole series of new machines for various office uses.

THE THREAT OF NATIONALIZATION: Nationalization of railroads is a real danger—but it can be averted by prompt and effective action, the Chamber of Commerce of the United States was told at Washington last week. Our News account of the meeting indicates that some of the speakers did some pretty plain talking—about business men, for example, who oppose "government in business" even as they pull political strings to obtain "free waterways," built at public expense, for their own personal benefit.

NEW "COLUMBIAN": Another fine new train—the Baltimore & Ohio's all-coach Washington-Chicago "Columbian"—goes into service tomorrow. There's a brief story about it in our News pages this week, with a more detailed description scheduled for publication in an early issue.

71 PER CENT DISCOUNT: A 71 per cent discount looks like pretty good business for the recipient. But that's exactly what an Interstate Commerce Commission examiner figures the railroads gave the government, through payment of war-time taxes on movement of some of the Reconstruction Finance Corporation's war-time freight. For that reason, and also because the rates charged were not unreasonable anyway, he has recommended that the I.C.C. dismiss an R.F.C. demand for "reparations." Details are given in the News section—which also reports that in the larger "reparations" cases, where billions instead of thousands of dollars are involved, the railroads have acquired two additional allies—the Brotherhood of Railroad Trainmen and the Railroad Security Owners Association.

INTERNAL AND EXTERNAL INFLUENCES: The railroads' relatively poor 1949 financial start, as measured by first quarter results, was due, our leading editorial declares, to the effect on the industry of both internal and external influences. Reasoning from that premise, the editorial goes on to point out what some of those influences were, and what factors may aid in overcoming them.

LOOKING 'EM OVER: New car inspection stations, of a highly efficient type, have been installed by the Union Pacific on the approach tracks to its classification yards at Pocatello, Idaho, and North Platte, Neb. The new facilities, which permit five-point inspection of moving cars, are described and illustrated in a feature article which begins on page 50.

NEW PRESIDENT FOR BALDWIN: M. W. Smith, formerly executive vice-president, is the new president of the Baldwin Locomotive Works. An outline of Mr. Smith's business career appears on page 49.

STILL GOOD CUSTOMERS: Considering differences in traffic volume, western storms, and other adverse factors, railroad purchasing figures for the first two months of 1949 have held up surprisingly well as compared with the same months of 1948. As shown on page 53, the over-all drop in total buying is due almost entirely to smaller equipment purchases, with orders for rail, ties and miscellaneous supplies all running ahead of a year ago. Another few months, incidentally, may show a distinct change in the equipment picture, if recent orders for 21 Diesel-electric locomotive units, as reported in the week's news, are a reliable "straw in the wind."

CONTROLLING PASSENGER COMFORT: Few things, probably, contribute more to railroad passenger comfort than properly controlled interior car temperatures. On a long transcontinental run, such as the one from Chicago to Los Angeles, where a car may move in a few hours from mountain cold to sub-tropic desert heat, proper temperature control is a real problem. For that reason, our illustrated account (page 45) of a recent test, on that very run, of Minneapolis-Honeywell's Electronic Control System should be of equal interest to mechanical and passenger traffic officers.

NAILABLE STEEL FLOORING*

Keeps Gondolas Off the Rip Tracks— Out of the Shops

NAILABLE STEEL FLOORING helps keep gondolas off the Bad Order Report, saves you money in floor repair and replacement costs. Check these points that show *why* NAILABLE STEEL FLOORING cuts floor maintenance costs and keeps cars where they belong—on the line, bringing in revenue.

Greater Strength—Channel design gives NAILABLE STEEL FLOORING higher strength, more resistance to dishing than steel plate floors. After months of grinding impacts from magnets, hot pig iron and the clamshell shown, the NAILABLE STEEL FLOOR in a test car retained its over-all flatness and nailability, its suitability for blocked and skidded loads.

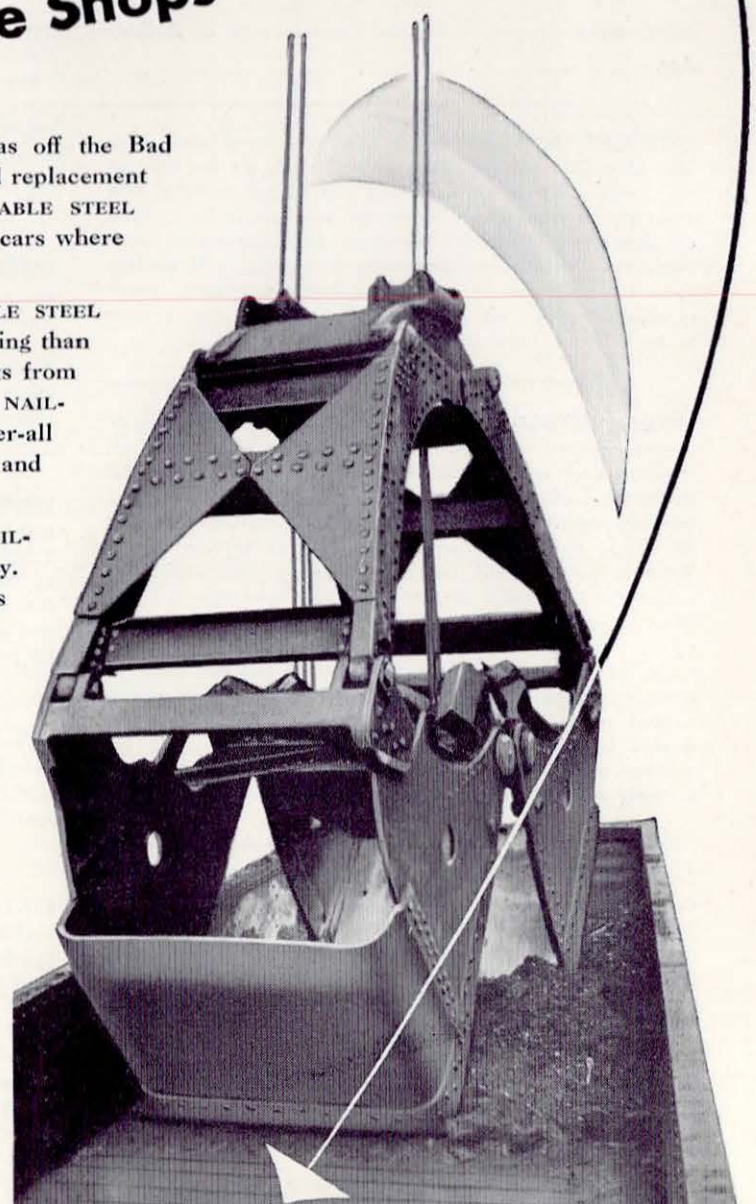
No Nail Damage—Nails can't rip or splinter NAILABLE STEEL FLOORING, can't damage it in *any* way. Held tighter than in wood, the proper size nails (20d or 30d in gondolas) are easily driven into the nailing grooves and can be readily removed.

High Rust Resistance—NAILABLE STEEL FLOORING is safer from rust because it's made from N-A-X HIGH-TENSILE steel which has three to five times the corrosion resistance of plain carbon steel and more than twice that of copper-bearing steel.

Combining nailability and strength, NAILABLE STEEL FLOORING does the job of both wood and conventional steel plate floors—and does each of them better. It saves money in operating as well as maintenance costs. When your next new car or rebuilding program comes up specify NAILABLE STEEL FLOORING.

NO TORN UP PLATES. This photograph shows gondola service at its roughest. Big clamshells like this ten-ton giant often tear rivet heads out of steel plate floors and rip up the cover plates. NAILABLE STEEL FLOORING *cannot* be torn up because it has no projecting rivet heads, no plate edges.

*PATENTS PENDING



GREAT LAKES STEEL CORPORATION

STEEL FLOOR DIVISION • PENOBSCOT BUILDING • DETROIT 26, MICHIGAN

UNIT OF NATIONAL STEEL CORPORATION

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RAILWAYS' EARNINGS MADE POOR START IN 1949

The best test of how a company or industry is doing is, of course, its net operating income. The only statistics of the Class I railway group for 1949 yet available are for the first quarter of the year. They show that the railways have made a very poor start this year. Net operating income of all Class I roads in the first quarter was $128,000,000. This compares with a first quarter average of over $188 million in the decade 1921-1930, inclusive, when a dollar was worth twice as much as now, and with over $142 million in 1948. Railways in the Eastern district earned $53¼ million in the first quarter of 1949 as compared with an average of $81 million in 1921-1930, and $33 million in 1948. Railways in the Southern district (including the Pocahontas region) earned $46,729,000 as compared with an average of $46 million in the decade 1921-1930, and almost $50 million in 1948. Railways in the Western district, owing largely to the terrible winter storms, made only $28,420,000 as compared with an average of over $61 million in the decade 1921-1930 and almost $60 million in 1948.

Internal Difficulties

The poor results with which the railways started the year were due to *internal* and *external* influences both of which present very difficult problems to the managements. In fact, these problems are so many and difficult that only the success with which the managements have surmounted great difficulties and solved great problems during the war period and thus far during the postwar period justifies confidence that the industry will come safely through the period of readjustment for business in general and for the railways in particular in which we are now pretty far advanced.

The chief *internal* difficulty presented to railway management is the terrific increase in costs that has occurred in the postwar period due to advances in wages of labor and prices of equipment and materials. Other industries have suffered comparable increases in costs, but in most instances they have been able to offset or more than offset them by advances in prices which exceed the advances in rates that the railways have been allowed to make. And the railways are facing another huge increase in their labor costs when the 40-hour week for non-operating employees goes into effect next fall.

There are two *apparent* remedies for the situation presented—viz., an increase in the *productivity per hour* of employees and further advances in rates. An increase in *productivity per hour* could be accomplished by harder and more efficient *work per hour* by employees, but is mainly dependent on improvements in the equipment, tools and other facilities with which employees do their work. Such improvements can be effected only by large capital

expenditures; and since the war years the railways have been making, and are still making, the largest annual capital expenditures in their history. The size of these expenditures, measured in money, has been partly due to high costs of labor and materials, but even measured in quantities of equipment and other new and improved facilities acquired and installed, the improvements made probably have been unprecedented. The capital invested has been derived partly from current net income, partly from cash and temporary cash investments accumulated during the war, and partly from the sale of equipment notes. How rapidly management has been converting working capital accumulated during the war into fixed capital is indicated by the fact that the total cash and temporary cash investments of the Class I roads declined from $2,873 million to $1,939 million between January, 1945, and January, 1949 —i.e., $934 million, or one-third. Obviously, this source of capital for improvements cannot be depended on much longer.

Problems Externally Created

Doubtless large amounts of equipment notes could still be sold; but efficiency in development and operation requires that increase and improvement in equipment be accompanied by corresponding expansion and improvement of tracks, yards and all permanent structures used in moving equipment. That is one serious trouble with the proposal of Colonel Johnson, the director of the Office of Defense Transportation, that government finance acquisition of a large amount of equipment. What the railways most need is means of financing expansion and improvement of the permanent structures with which equipment must be moved. And there is presently no apparent solution of *that* problem of financing excepting an increase of net operating income.

The *external* influences presenting problems of great difficulties to railway management are (1) government regulation of transportation and (2) government policy regarding taxation and transportation subsidies. There has been much less reason recently to complain about the Interstate Commerce Commission's sloth in trying to readjust railway rates to costs than there was a few years ago; but recent results of the railways show that there is still need for more of such readjusting and it will become even more necessary when the 40-hour week for non-operating employees goes into effect.

The railways are being hard hit by regulation by another government body—i.e., by the decision of the Federal Trade Commission outlawing basing point prices, the effects of which on the railways and other industries demand its reversal by congressional legislation. And the *net deficit* incurred by the western lines as a whole in January and February, which so adversely affected their net operating income in the first quarter, forcibly calls attention to the effects of the discrimination practiced by government against the railways and in favor of all less important and less essential means of transportation. The western lines incurred this deficit because they were obliged, *at their own expense*, to fight the terrible storms, snow and ice of last winter, while government, *at the expense of the taxpayers*, was fighting the storms, snow and ice, for the operators of commercial transportation by water, highway and air. In addition, while the railways are finding it necessary to advance their rates to offset increased costs of providing and maintaining their highways, they are having traffic and earnings that they need taken from them by operators of boats, buses, trucks and airplanes who are aided in undercutting railway rates both by the heavy taxation imposed by government on the roadway and tracks of the railways, and by the provision by government of the corresponding facilities used by other carriers at less than cost or no cost at all to these other carriers.

Railway managements have accomplished marvels in solving both the internal and the external problems with which their industry has been confronted in the past. They will need quite as much energy, ability, resourcefulness, and cooperation with each other and cooperation from their suppliers and customers as they have needed in the past to solve the problems with which they are now confronted. There is at present no reason to doubt that the needed energy, ability, resourcefulness and cooperation will be forthcoming, as heretofore, excepting that the nature, magnitude and difficulty of the problems presented do not seem to be understood by most business men and public men whose understanding of them is greatly needed.

YARD LIMITS IN C.T.C.

In some industrial switching areas in centralized traffic control territories, several railroads are improving safety and eliminating considerable delay to fast freight trains by abolishing yard limits, thereby "lifting" Rule 93 as applying to certain sections. This, for example, has been done on the St. Louis-San Francisco in the 4.5 mi. between East Tulsa, Okla., and Rice, formerly yard limit territory where several industrial spurs lead from the main track. This section of track lies within the centralized traffic control installed last year on 75 mi. of single-track main line between East Tulsa and Afton, Okla., which includes electric locks on the hand-throw switches leading to the spur tracks. While serving an industry between East Tulsa and Rice, switch engines must clear the main track, place the switch normal and lock it, in order for the dispatcher to clear signals for trains on the main track.

When main track signals are to be cleared, have been cleared, or when a train is occupying the main track between East Tulsa and the next power siding, an electric lock on any of the spur track switches cannot be released to permit a switch engine to enter the main track. Accordingly, the switch engine cannot, through carelessness, "bob out" suddenly on the main track as a through train approaches. Therefore, the C.T.C. system includes protection to prevent the type of accidents for which Rule 93 was written for territory where no such signal protection is in service.

With this protection, the Frisco has removed the yard limit boards previously designating the East Tulsa-Rice section and, accordingly, Rule 93 does not apply in this territory. Now, second class trains, such as important through freights, pass through this section at maximum permissible speed—50 to 55 m.p.h.—rather that at reduced speed prepared to stop short of train or obstruction. Also the work of switch engine crews is expedited and there is an overall improvement in safety. These are some of the indirect, but worthwhile, benefits of centralized traffic control.

NON-SKID FOOTING NEEDED IN STOCK CARS

There are 66 individual things, all of them bad, which can happen to live stock in shipment from grower to packer, according to the report of the chairman of the National Live Stock Loss Prevention Board, Dr. W. J. Embree, agricultural representative of the New York Central. These hazards, he said, cause an annual meat loss to the nation of $25 million, about half of which is caused by slippery floors in chutes and alleys, stock cars, and trucks.

Just how much of this loss occurs in stock cars alone is unknown, but it undoubtedly reaches a substantial figure, judging by claim payments which railroads make to live-stock shippers each year.

It has long been recognized that a permanent non-skid floor for stock cars would be a good investment, and many devices and materials have been tried—Dr. Embree has tried 28 of them. Sand bedding, supplemented with straw during the winter months, has continued to be the most satisfactory and widely used because of its non-slip properties, and in spite of numerous disadvantages.

In the first place, the time and cost involved in cleaning out old bedding and applying new constitutes an appreciable charge against every car of live stock shipped. Without the sand, cleaning would be greatly simplified. Some sand, carelessly selected, becomes almost a silt when wet and actually promotes rather than prevents slippery conditions. Moreover, in other instances of neglect, fermented old winter bedding, in conjunction with extreme heat and animal exhaustion, has caused heavy losses in the shipment of such stock as fat hogs.

As in most problems associated with the design and use of railway equipment, the question of economics is fundamental, and doubtless a satisfactory non-skid stock-car floor covering would have been developed long ago except for the necessity of making it economically, as well as mechanically, practicable.

Some fairly substantial expenditures would seem to be justified, however, if the improvement makes a real dent in claim payments, possibly increases floor life, or proves self liquidating through reduction in stock-car bedding and cleaning costs.

Stock-car floors are subject to exceptionally severe service conditions and, according to Dr. Embree's report, often last only five to seven years, the renewal cost being about $150 for one deck, or $300 for a double-deck car. He cites promising results with a permanent non-slip material which can be applied to worn floors at about one half the cost of new floors, after which the floors will give another full period of service life.

In tests of four cars equipped with this material and used continuously in live-stock service since last June, no sand bedding was used, summer or winter, and the car floors retained their non-slip properties due to hard aggregate particles imbedded in softer matrix material which, as it wears, constantly brings new abrasive particles to the surface. Dr. Embree estimates that the application of this material to a double-deck stock car will pay for itself through savings in bedding cost, alone, while handling 50 loads.

Railways must have freedom to meet the competition of waterways, highways, and airways, all of which are indirectly subsidized by their enjoyment of facilities provided at the cost of the government, and which contribute relatively little to the tax revenues of governments, either federal, provincial or municipal.

Rates made to meet such competition, provided they be no lower than is necessary to retain the traffic and provided they return to the railway something more than the out-of-pocket cost of the service, are of benefit to the general public as well as to the railroad because they make a contribution to the overhead expense which would otherwise have to be borne by the rest of the traffic of the country. On the other hand, to argue that because such rates are made to meet direct competition, rates must be reduced in other territories where no such competition is met, and which are reasonable rates for the movements involved, would be to invite immediate and overwhelming disaster to the railways.

—George A. Walker, chairman, Canadian Pacific

CAR RECORD

CAR INITIAL	L OR EMPTY	INTERCHANGING ROAD	CAR NUMBER	MO.	DAY	TIME RECEIVED	STATION FROM	STATION TO	TIME DELIVERED	DATE DELIVERED	FOR EACH DAY OR CONTROL	PER DIEM DUES
ATA	L	AT	5274	3	03	91	92				1	3
ATA	L		5274	3	03	140	92	281	5	5		
ATA	L		5274	3	05	23	281	4112	83	5		
ATA	L	GN	5274	3	05			4112	83	5	1	5
										15		2T
ATA	L	AT	5276	3	14	70	92				1	14
ATA	L		5276	3	14	110	92	136	122	14		
ATA	L	SP	5276	3	14			136	142	14	1	14
										28		T
ATA	L	AT	5282	3	06	102	92				1	6
ATA	L		5282	3	06	142	92	281	12	7		
ATA	L		5282	3	07	22	281	4112	75	7		
ATA	L	GN	5282	3	07			4112	75	7	1	7
ATA	L	GN	5282	3	13	233	4112				1	13
ATA	L		5282	3	15	21	4112	281	115	15		
ATA	L		5282	3	15	130	281	92	35	16		
								Incomplete Record		51	9899	88T
ATA	L	AT	5299	3	13	81	92				1	13
ATA	L		5299	3	13	141	92	281	52	14		
ATA	L		5299	3	14	74	281	4112	161	14		
ATA	L	GN	5299	3	14			4112	161	14	1	14
										42		1T
ATA	L	AT	5302	3	02	115	92				1	2
ATA	L		5302	3	02	144	92	281	92	3		
ATA	L		5302	3	03	115	281	4112	212	3		
ATA	E	GN	5302	3	10	2	4112				1	10
ATA	E		5302	3	10	32	4112	281	121	10		
ATA	E		5302	3	10	140	281	92	50	11		
ATA	E	AT	5302	3	11			92	193	11	1	11
								Incomplete Record		37	9899	99T

Car record books, printed on the tabulator at the rate of 6,000 lines per hour, contain complete chronological histories of system cars and cars of foreign ownership

to add another nine clerks to the staff we had at the time this system was inaugurated. Another important benefit has been our escape from penalty payments for failure to have per diem reports ready on time.

These improvements have been accomplished through the use of Remington Rand punched-card (tabulating) equipment. From the start our reports were more complete, clear and accurate than when they were prepared manually.

To do the job required it was necessary to place in service several manually operated card punches; a sorter which separates or groups the cards, according to needs, at a rate of 25,200 an hour; and a tabulator which prints, adds or subtracts as it goes along, at the rate of 6,000 complete lines (of up to 100 characters each) per hour. Supplementing these three basic machines are the interpreters, summary punches and a reproducing punch which are used for automatic extension of the basic tabulating machine functions.

Using these machines, we prepare a daily car report. Since the W. P. uses the 1-to-24-hour numbering method, it is a simple matter to trace, from this daily car record, the movement of any car coming on line at any point and at any hour, along with the train in which it moved, and the point and hour at which it left the line. So accurate is our new record that we never have to refer back to wheel, junction or interchange reports. Considerable clerical time is thus saved.

As foreign-road cars come onto the W. P., interchange reports show date, point and time received and whether loaded or empty. Cards are punched for each car and, after the daily car report is made, the cards go to file. As cars go through each junction point on the Western Pacific that information comes to San Francisco and again cards are punched, to be used in preparing daily car reports. As the car leaves the line still another card is punched. Then at the end of the month summary cards are automatically made for each foreign car and the summaries are used to prepare per diem reports to car owners. For Western Pacific cars on foreign lines the system works the same way, except, of course, that interchange reports come from the foreign lines. Using the same procedure, the W. P. then produces a report of the activities of its cars off line, thus gaining quickly a check on the accuracy of the per diem report of foreign lines to us.

The fact that unit and summary cards may be reused for statistical purposes played an important part in our decision to use this equipment. These same factors make it possible to add other applications without over-burdening the tabulating department.

In addition to using this equipment for handling car records, we have, for some time, been using it to make reports of gross and net ton-mileage, locomotive power and fuel reports, passenger car mileage, locomotive train-hours, locomotive ton-miles, and locomotive mileage by principal, helper and light service.

Railroad rates are still out of line as compared with charges for other products and services. Only when they are adjusted to proper levels, will we be able to make those large advances in improvements and efficiency which, in turn, will substantially increase earning power.

—M. W. Clement, president, Pennsylvania, in a message to P.R.R. stockholders

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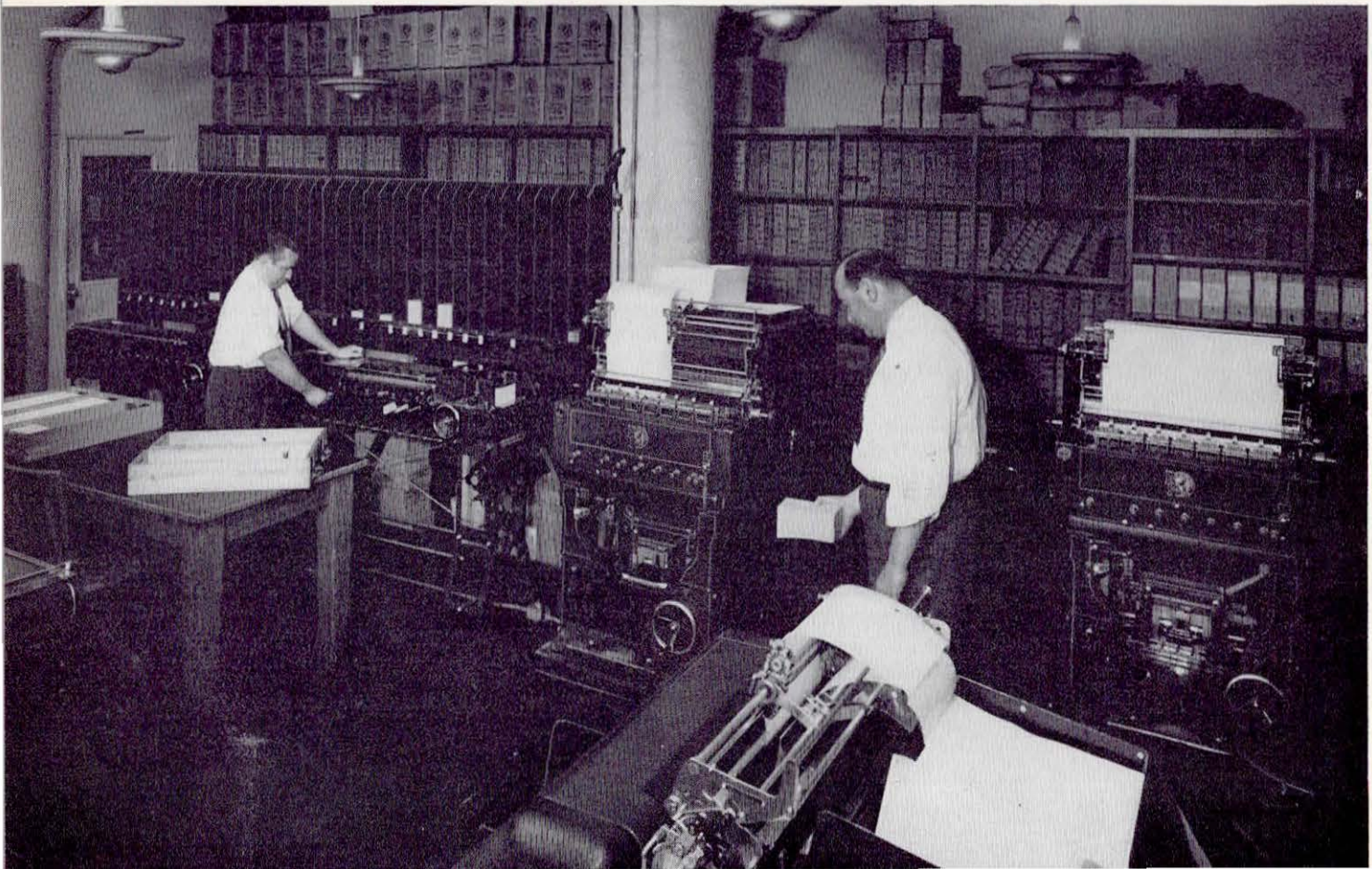
—George A. Walker, chairman, Canadian Pacific

Key-punch group cuts cards from wheel, interchange and junction reports. Punches retain repetitive information and automatically record it in cards

Car Records on Tabulating Equipment

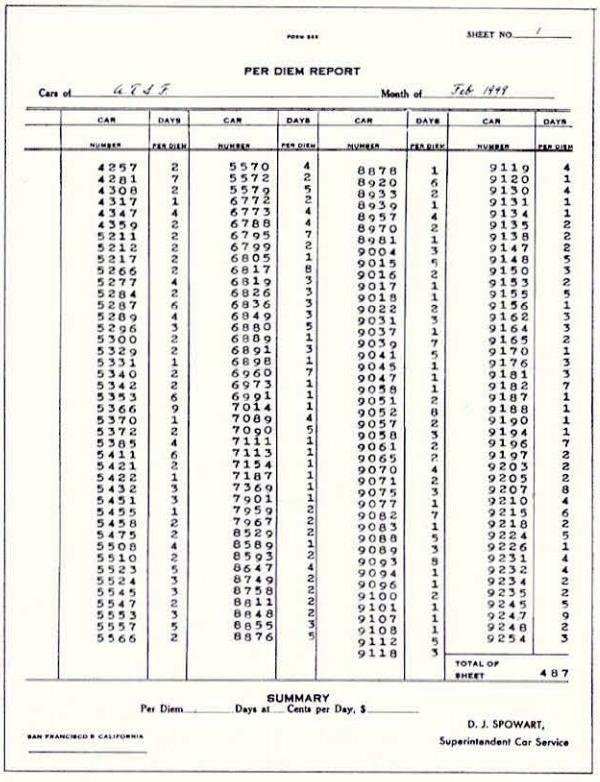
Several printing tabulators are shown at work in the office of the superintendent of car service, turning out per diem reports and private line statements. At extreme left, cards have whisked through high speed sorters at the rate of 25,200 per hour



Per diem reports, locomotive train-hour reports and many other transportation statistics are compiled by mechanical means

By D. J. SPOWART
Superintendent of Car Service,
Western Pacific

Installation by the Western Pacific of mechanical equipment for handling car records has cut the cost of this work, raised efficiency in preparing statistical material—thus giving management more accurate figures at earlier dates—and, far from least important, has almost eliminated clerical turnover, which, before this equipment was installed, gave us a great deal of trouble. Rental of this equipment, plus the cost of the cards used, is figured as the equivalent of seven clerical salaries, and six months after the installation was made we had reduced our clerical staff by ten persons, and our turnover practically ceased. As the amount of work increased, both car record and other, we held to the same personnel, but it is our belief that if the old manual system had been continued we would have had



SHEET NO. 1

PER DIEM REPORT

Cars of G.T.&E. Month of Feb. 1949

CAR NUMBER	DAYS PER DIEM	CAR NUMBER	DAYS PER DIEM	CAR NUMBER	DAYS PER DIEM	CAR NUMBER	DAYS PER DIEM
4257	2	5570	4	8878	1	9119	4
4281	7	5572	2	8920	6	9120	1
4308	2	5579	5	8933	2	9130	4
4317	1	6772	2	8939	1	9131	1
4347	4	6773	4	8957	4	9134	1
4359	2	6788	4	8970	2	9135	2
5211	2	6795	7	8981	1	9138	2
5212	2	6799	2	9004	3	9147	2
5217	2	6805	1	9015	6	9148	5
5266	2	6817	8	9016	2	9150	3
5277	4	6819	3	9017	1	9153	2
5284	2	6826	3	9018	1	9155	5
5287	6	6836	3	9022	2	9156	1
5289	4	6849	3	9031	3	9162	3
5296	3	6880	5	9037	1	9164	3
5300	2	6889	1	9039	7	9165	2
5329	2	6891	3	9041	5	9170	1
5331	1	6898	1	9045	1	9176	3
5340	2	6960	7	9047	1	9181	3
5342	2	6973	1	9058	1	9182	7
5353	6	6991	1	9051	2	9187	1
5366	9	7014	1	9052	8	9188	1
5370	1	7089	4	9057	2	9190	1
5372	2	7090	5	9058	3	9194	1
5385	4	7111	1	9061	2	9196	7
5411	6	7113	1	9065	2	9197	2
5421	2	7154	1	9070	4	9203	2
5422	1	7187	1	9071	2	9205	2
5432	3	7369	1	9075	3	9207	8
5451	3	7901	1	9077	1	9210	4
5455	1	7959	2	9082	7	9215	6
5458	2	7967	2	9083	5	9218	2
5475	2	8529	2	9088	5	9224	5
5508	4	8589	1	9089	3	9226	1
5510	2	8593	2	9093	8	9231	4
5523	5	8647	4	9094	1	9232	2
5524	3	8749	2	9096	2	9234	2
5545	3	8758	2	9100	2	9235	2
5547	2	8811	2	9101	1	9245	5
5553	3	8848	2	9107	1	9247	9
5557	5	8855	3	9108	1	9248	2
5566	2	8876	5	9112	5	9254	3
				9118	3		

TOTAL OF SHEET 487

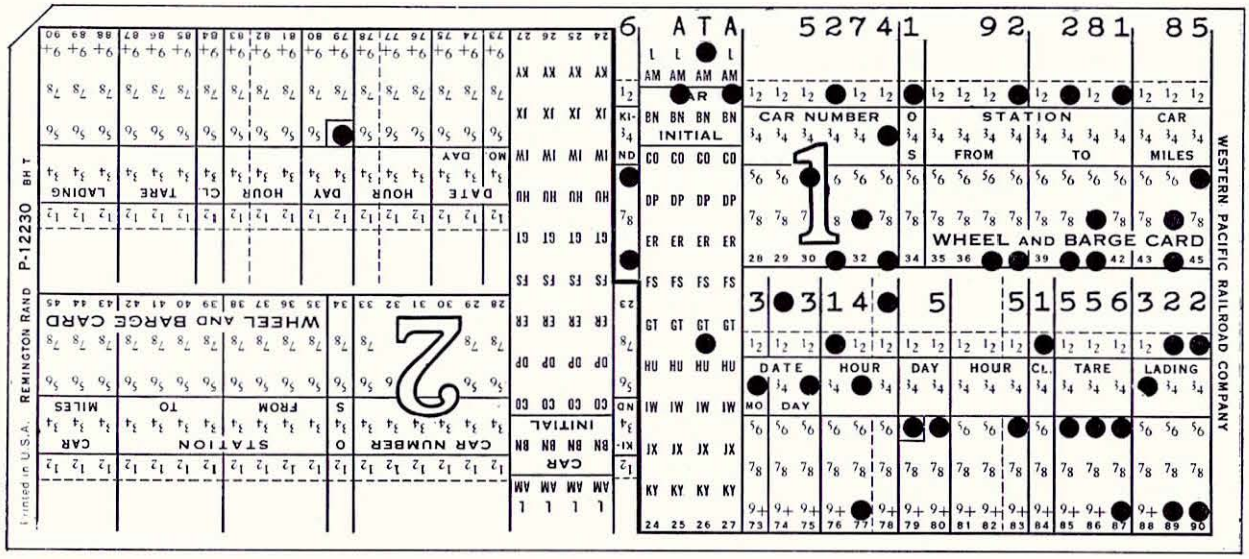
SUMMARY
Per Diem ____ Days at ____ Cents per Day, $ ____

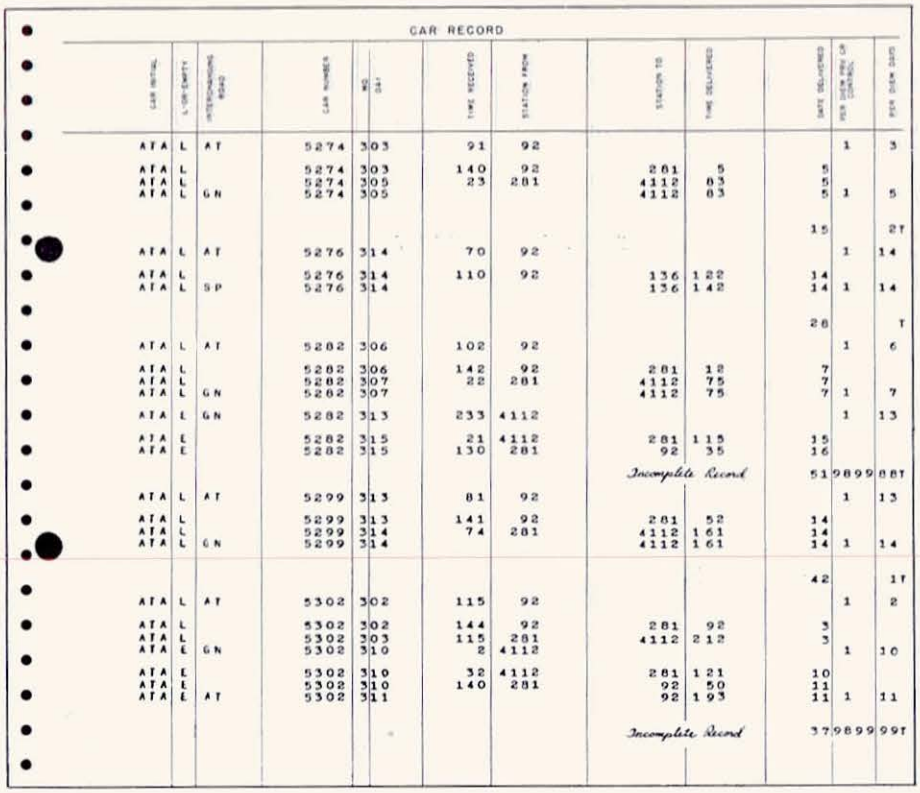
SAN FRANCISCO 8 CALIFORNIA

D. J. SPOWART,
Superintendent Car Service

Right—Interchange cards actuate the tabulator which automatically subtracts receipt from delivery, producing the summary of per diem due on each car

Below—Into this card is punched all the desired information from conductor's wheel reports, both freight and passenger





CAR RECORD

CAR INITIAL	L OR EMPTY	INTERCHANGING ROAD	CAR NUMBER	MO	DAY	TIME RECEIVED	STATION FROM	STATION TO	TIME DELIVERED	DATE DELIVERED	PER DIEM PRO CAR OWNER	PER DIEM DAYS
ATA	L	AT	5274	3	03	91	92				1	3
ATA	L		5274	3	03	140	92	281	5	5		
ATA	L		5274	3	05	23	281	4112	83	5		
ATA	L	GN	5274	3	05			4112	83	5	1	5
										15		27
ATA	L	AT	5276	3	14	70	92				1	14
ATA	L		5276	3	14	110	92	136	122	14		
ATA	L	SP	5276	3	14			136	142	14	1	14
										28		T
ATA	L	AT	5282	3	06	102	92				1	6
ATA	L		5282	3	06	142	92	281	12	7		
ATA	L		5282	3	07	22	281	4112	75	7		
ATA	L	GN	5282	3	07			4112	75	7	1	7
ATA	L	GN	5282	3	13	233	4112				1	13
ATA	L		5282	3	15	21	4112	281	115	15		
ATA	L		5282	3	15	130	281	92	35	16		
								Incomplete Record		51	9899	881
ATA	L	AT	5299	3	13	81	92				1	13
ATA	L		5299	3	13	141	92	281	52	14		
ATA	L		5299	3	14	74	281	4112	161	14		
ATA	L	GN	5299	3	14			4112	161	14	1	14
										42		1T
ATA	L	AT	5302	3	02	115	92				1	2
ATA	L		5302	3	02	144	92	281	92	3		
ATA	L		5302	3	03	115	281	4112	212	3		
ATA	E	GN	5302	3	10	2	4112				1	10
ATA	E		5302	3	10	32	4112	281	121	10		
ATA	E		5302	3	10	140	281	92	50	11		
ATA	E	AT	5302	3	11			92	193	11	1	11
								Incomplete Record		37	9899	99T

Car record books, printed on the tabulator at the rate of 6,000 lines per hour, contain complete chronological histories of system cars and cars of foreign ownership

to add another nine clerks to the staff we had at the time this system was inaugurated. Another important benefit has been our escape from penalty payments for failure to have per diem reports ready on time.

These improvements have been accomplished through the use of Remington Rand punched-card (tabulating) equipment. From the start our reports were more complete, clear and accurate than when they were prepared manually.

To do the job required it was necessary to place in service several manually operated card punches; a sorter which separates or groups the cards, according to needs, at a rate of 25,200 an hour; and a tabulator which prints, adds or subtracts as it goes along, at the rate of 6,000 complete lines (of up to 100 characters each) per hour. Supplementing these three basic machines are the interpreters, summary punches and a reproducing punch which are used for automatic extension of the basic tabulating machine functions.

Using these machines, we prepare a daily car report. Since the W. P. uses the 1-to-24-hour numbering method, it is a simple matter to trace, from this daily car record, the movement of any car coming on line at any point and at any hour, along with the train in which it moved, and the point and hour at which it left the line. So accurate is our new record that we never have to refer back to wheel, junction or interchange reports. Considerable clerical time is thus saved.

As foreign-road cars come onto the W. P., interchange reports show date, point and time received and whether loaded or empty. Cards are punched for each car and, after the daily car report is made, the cards go to file. As cars go through each junction point on the Western Pacific that information comes to San Francisco and again cards are punched, to be used in preparing daily car reports. As the car leaves the line still another card is punched. Then at the end of the month summary cards are automatically made for each foreign car and the summaries are used to prepare per diem reports to car owners. For Western Pacific cars on foreign lines the system works the same way, except, of course, that interchange reports come from the foreign lines. Using the same procedure, the W. P. then produces a report of the activities of its cars off line, thus gaining quickly a check on the accuracy of the per diem report of foreign lines to us.

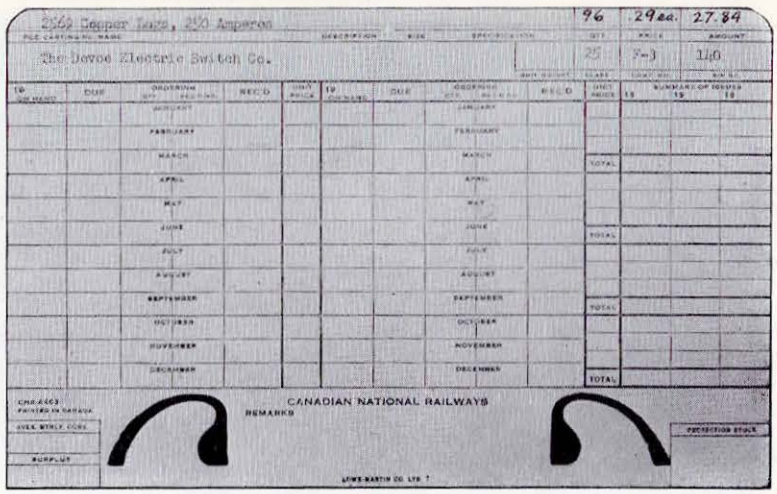
The fact that unit and summary cards may be reused for statistical purposes played an important part in our decision to use this equipment. These same factors make it possible to add other applications without over-burdening the tabulating department.

In addition to using this equipment for handling car records, we have, for some time, been using it to make reports of gross and net ton-mileage, locomotive power and fuel reports, passenger car mileage, locomotive train-hours, locomotive ton-miles, and locomotive mileage by principal, helper and light service.

Railroad rates are still out of line as compared with charges for other products and services. Only when they are adjusted to proper levels, will we be able to make those large advances in improvements and efficiency which, in turn, will substantially increase earning power.

—*M. W. Clement, president, Pennsylvania, in a message to P.R.R. stockholders*

This is the visible type card stock record used by the Canadian National. After stock is taken and extensions are made inventory figures are entered in upper right hand corner of the card. All items are then double checked

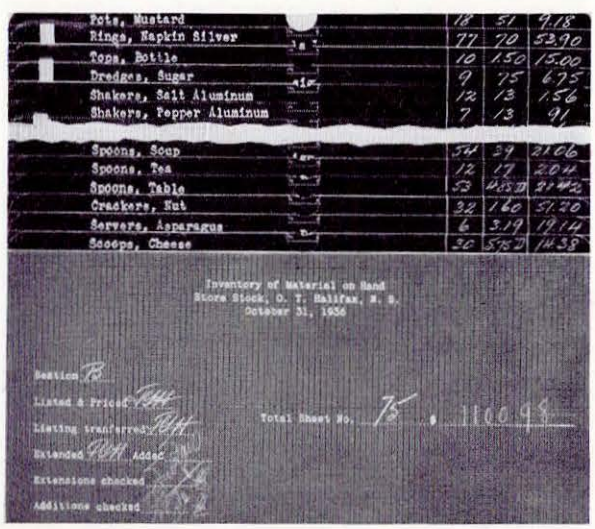


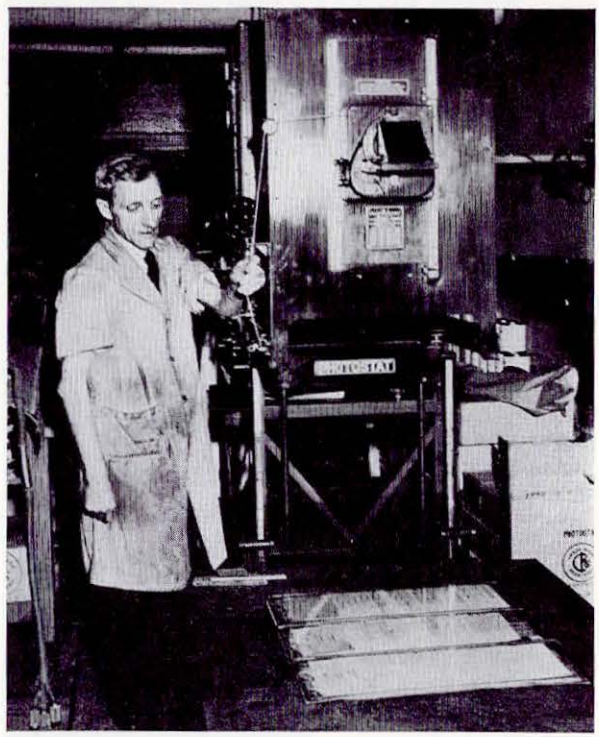
Error-free method of transcription used; typing eliminated

C.N.R. Has Cut Expense In Taking Inventory

The stores department of the Canadian National has reduced its expense in taking inventory by more than $4,000 yearly. This saving has been made possible through the use of visible-type stock records—instead of the old-type stock book—and a camera which photographs the pertinent portions of these records. In addition to these savings, this method is said to eliminate all chance of errors which used to occur when the transcription of inventory figures was made from stock book pages and work sheets to inventory recapitulation sheets. In addition, the record is said to be tamper proof.

The stock records for 60 items can be carried on one panel of the type shown under the camera in Fig. 2. Panels are photographed at the rate of 12½ per man-hour, which means that approximately 750 items can be transcribed to "recap" sheets in that time. A competent typist will transcribe about 120 per hour. The man-hour savings are proportional. In addition, the taking of inventory is done in a much shorter time than before this system was established and final figures are available at an earlier date.





Once verifying has been done whole panels of cards are taken to the camera where they are photographed three at a time as shown here. Every time the shutter snaps a record has been made of inventory for approximately 180 items. The cost of labor, chemicals and film is said to be about 19 cents per panel

A section of one panel as photographed. Note verifications placed at bottom of each panel

Fig. 1. View of a portion of the machine room in the Auditor of Revenue's department. Electric calculating punch is in left foreground

By J. G. WORMICK
Auditor of Revenues, Reading

MACHINES PRORATE FREIGHT REVENUES

Work more accurate and completed long before deadlines, with no overtime—Typing, checking and adding of abstracts eliminated

In the complicated work of prorating interline freight revenues between the various carriers, which on transcontinental traffic may involve division of revenues among as many as ten lines, the Reading has made improvements that have eliminated entirely the thousands of hours of overtime which formerly attended this monthly job. At the same time closing dates on the work have been moved up several days.

The Author

These results have been accomplished through addition of International Business Machines' electric calculating punch — which mechanically performs the work of prorating—to the I.B.M. equipment we have had for a number of years. To date, complete mechanization has been possible only where two or three carriers are involved, i.e., direct connections, the Reading, of course, being the terminating carrier. Where more than three carriers share the revenue on a haul some manual work is involved, but the calculating punch does much faster work than used to be done by comptometer operators. Thus, even this portion of our work has been speeded and made more economical.

Abstracts for Direct Connections

When the auditor of revenues receives waybills from Reading agents, with freight bills attached, those waybills are registered and coded for commodity, route, etc. From these documents accrual cards are punched. (See Fig. 2.) (This is the basic document from which, directly or indirectly, all others are prepared.) On a trip through the alphabetic printing machine the accrual cards prepare the accrual sheets (See Fig. 3), which are a summary of the waybills received from agents, with the total revealing the debit against the agent for one day. At the same time a

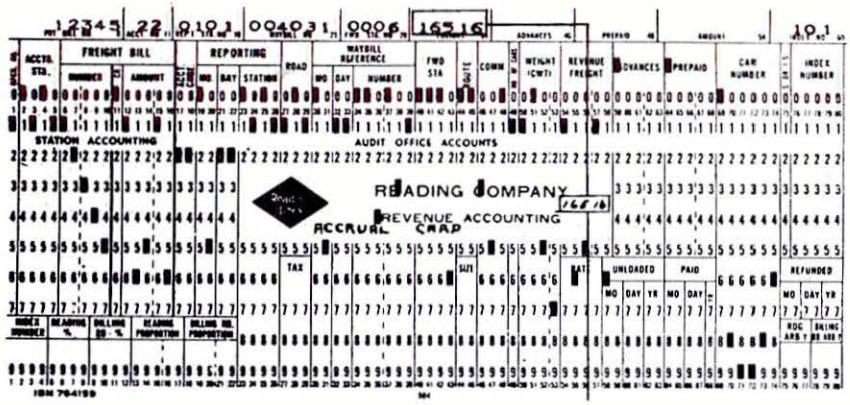


Fig. 2. This is the accrual card, the only document manually prepared in prorating revenue for direct connections

Fig. 3. The accrual sheet

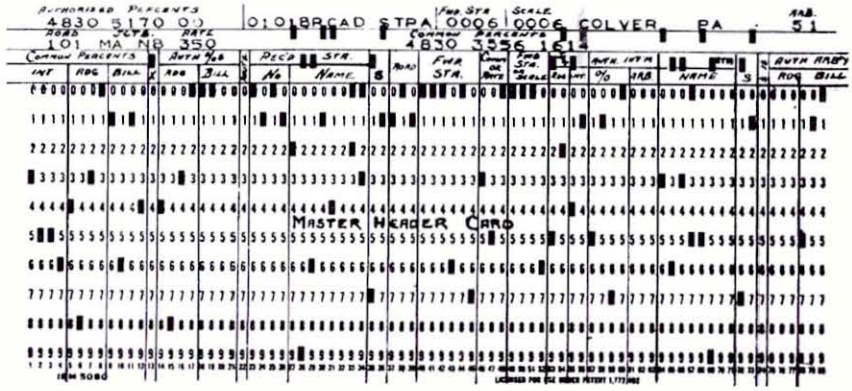


Fig. 4. Master header card is a prepunched card which has the percentage of revenue due each participating carrier punched into it

623 READING COMPANY 623

ABSTRACT OF INTERLINE WAYBILLS RECEIVED

FROM STATION ON THE		Divisions	Proportions	
MONTH OF MAY 1948	308 GTW R. R	40		
	Arby	3.5	59 07	⊕
VIA PT HUR &	CNATL R R	20	14 66	x
VIA BROCK &	DLW R. R.	17	12 46	y
VIA TAYLOR &	CRROFPA R. R.	10	7 33	z
VIA ALTN &	RDG R R.	13		
VIA &	R R.		29 93	4
	Arby	2.4		
			123 45	

FROM (5800) PORT HURON MICH

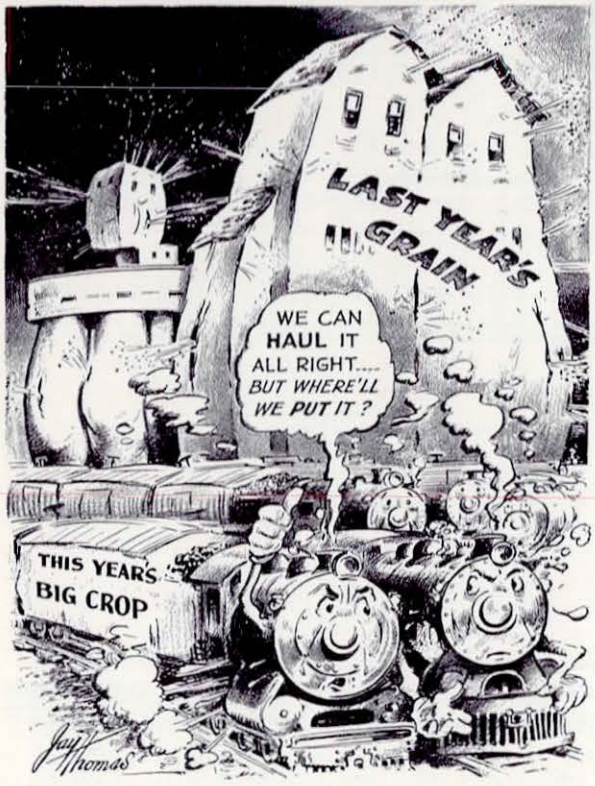
TO (4323) LITITZ PA

No. Station State

	WAYBILL Date	WAYBILL Number	CAR Initials	CAR Number	Commodity	WEIGHT	FREIGHT	ADVANCES	PREPAID
					799				
KM	5 23	127	CN	73024	MISC.MDSE	85000	123 45		

Fig. 5. All the information on the abstract of interline waybills received, is manually placed on the form when the division of revenue is for more than 3 roads

IT'LL HOLD JUST SO MUCH...!



daily total accrual summary card, which shows daily total charges against each agent, is prepared by the summary punch. (The work thus far really is the basic station accounting portion of the auditor of revenues' work.) From this point on all documents are automatically prepared, if the proration involves no more than three roads, including the Reading.

Once the accrual summary card and the accrual sheet are prepared, the accrual cards are run through a duplicating punch machine which produces a settlement card, i.e., a card which will be used in the actual breakdown of the revenues between no more than three roads. These settlement cards are automatically collated with a master header card (See Fig. 4) at the end of the month and then put through the electric calculating punch which simultaneously computes and punches into the settlement cards the proportion of the revenue each railroad is to receive. (This latter is done at an average rate of 600 calculations per hour.) Then, in order to produce the abstract of interline waybills received and the settlements summary card, these cards are run through an alphabetic printing machine which turns out the required documents. (Heretofore the abstracts were manually typed, checked and added.)

The settlements summary card is used to print the recapitulation of abstracts of interline waybills received from stations, and at the same time as this "recap" is being made the summary punch produces a road summary card. The summary for each carrier is balanced to the total from original accrual cards. Settlement summaries are then used to prepare the "recapitulation of intermediate road proportions," and the sum of these intermediate recaps is balanced to the summary of abstracts of interline waybills received by the various Reading agents.

Non-Direct Connections

Where more than two railroads in addition to the Reading are concerned in the division of the revenue we have been forced to devise a somewhat different procedure, in which we utilize the Bridger card plan. Main road cards (origin and settling carriers on one card) are key punched from the abstracts (See Fig. 5), with all pertinent information including billing and settling road percentages. Intermediate line percentages and code only are punched into separate cards for each other participating carrier, while common information is automatically punched from the main road card. All cards then go through the electric calculating punch, which places on the main road card the Reading's proportion and the billing line's share, while on the cards for the intermediate carriers it punches the amount due to those lines.

From this point on the procedure is the same as when making the breakdown for direct connections, except that proportions due each road are manually transferred to abstracts from the "recap" of abstracts of interline waybills received from stations. Experiments are under way to devise a means of handling all interline abstracts from tabulating cards in the same manner as is done for direct connections.

After the way the railroads "came through" during the recent storm period when all other forms of transportation were practically out of business, it would seem that the public—meaning all of us—would quit bedeviling them. . . .

Too many people have come to look upon the railroads in recent years as supplemental transportation, to be used only when other forms are inconvenient or unsafe.

They have been harassed by government, labor boards, high costs, high wages, scarce materials and all the other ills with which industry may be confronted.

Railroads are operated, not by some mythical board in a metropolitan skyscraper, but by real men who work and live like the rest of us. They have the three-way job of providing service, trying to make a little money for the stockholders and meeting the wage and other demands of hundreds of thousands of employes.

How long can they last and how soon will "we, the people" be in the railroad business through government ownership? If they are forced to give up because of unseemly demands, the railroads will have to be nationalized, as England has done.

And if government takes over the railroads, it will take over other forms of transportation and general business. Then where will taxes come from to support government?

It might be well to "lay off" the railroads for a little while, at least, and allow them to recuperate from the tremendous losses they have sustained from storms and other unforeseen hazards.

We might find ourselves in the railroad business and we don't want to be—if we're smart, that is.

—Alliance, Neb., Times-Herald

TEST OF COACH TEMPERATURE CONTROLS

C. & N.W. coach in "Los Angeles Limited" demonstrates close temperature regulation and uniform space heating with electronic system of control

In August, 1947, the Minneapolis-Honeywell Electronic Comfort Control system was installed on Chicago & Northwestern Coach No. 6133 in revenue service between Chicago and Minneapolis. On March 8, 1949, this car was attached to the "Los Angeles Limited" of that road and the Union Pacific to test the performance of the temperature control system under the varying conditions of temperature and sun load encountered in a trip from Chicago to Los Angeles. The car left Chicago at 12:01, C.S.T. March 8 and arrived at Los Angeles at 3, C.S.T.* March 10. It was normal revenue service during the entire trip. The principal instrument used in this demonstration was a Brown multiple-point recording thermometer, which rapidly measures and records temperatures at various points throughout the car.

The comfort control system comprises the following features:

1. Hot water instead of steam is contained in the radiators along the floor to permit moderate temperatures to be maintained at that level. A small motor-driven pump supplies positive circulation for even temperature distribution. A Prestone solution is used for freeze-up protection.

2. A thermostat in a window on each side of the car measures the chilling effect of the cool walls and windows, and maintains the hot water in the radiators at a temperature which offsets these chilling effects. Both sides are completely independent of each other so that the same comfort level can be maintained even with the

* For clarity as to duration, Central Standard Time was used throughout the test.

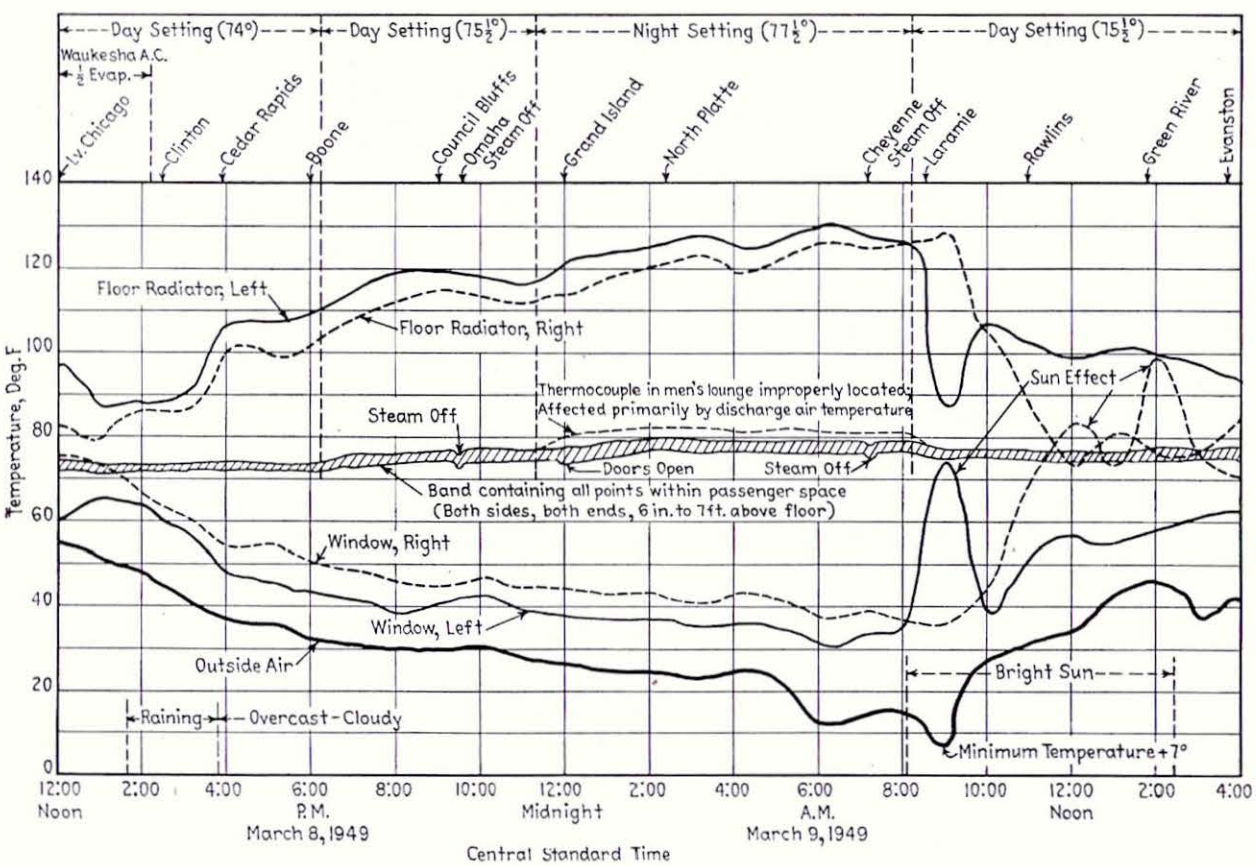


Fig. 1. How the floor radiators respond to variations in outside temperature and to the effect of the sun on the side of the car

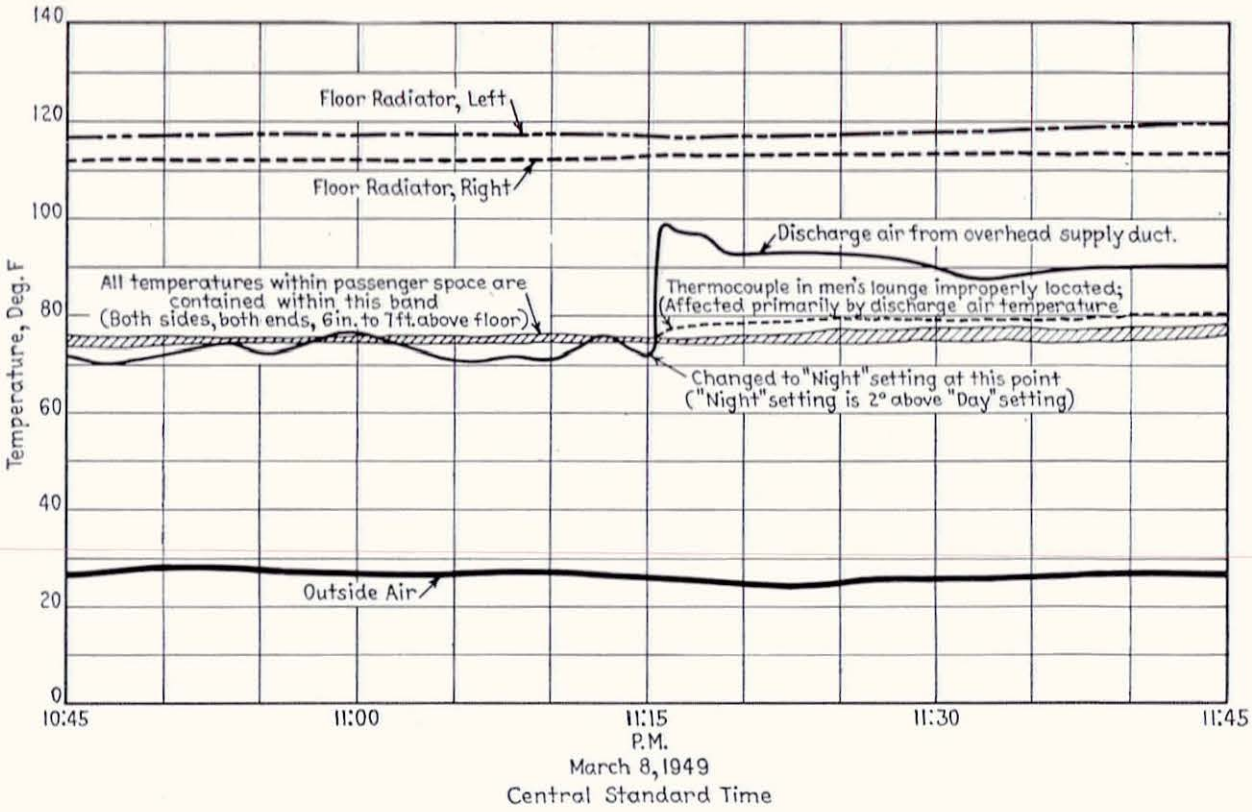


Fig. 2. The overhead system responds rapidly to a change in temperature setting

sun shining brightly on one side and a cold wind blowing against the other.

3. A third independent heating system in the car is the overhead warm-air circulating system. This supplies fresh air for ventilation purposes and provides a final adjustment for comfort conditions, since the temperature of the air supply is controlled by a thermostat located within the passenger space in the car.

4. All steam valves are of the motor-driven, modulating type, which admit only the exact amount of steam necessary to produce comfort by replacing heat losses. The floor-heat valve meters steam to a heat exchanger which heats the circulating water, while the overhead valve meters steam to a coil which heats the circulating air before it is discharged into the car.

5. The system employs electronic control which can sense temperature changes as small as one-tenth of one degree and adjust the heat supply to balance that change exactly. The thermostat is merely a coil of wire with no moving parts. Temperature changes are corrected before they affect car space by a thermostat located where it can measure outdoor air changes and make corrections in heat supply before those changes are reflected in the car temperature.

Test Equipment

The Brown Recorder measures 24 consecutive temperatures at various points inside and outside the car. Wires are run from the recorder to thermocouples at each of these points. The recorder can be set to print automatically readings at all 24 points in succession continuously, or it can be set to print readings at only one point continuously. The automatic printing of 24 points requires about one minute. The recorder also can be operated manually to indicate the temperature at any desired thermocouple location.

The thermocouple locations are:

1. Overhead discharge air
2. Outdoor air intake
3. Outdoor air right side
4. Outdoor air left side
5. Right side, top of seat
6. Right side, bottom of seat
7. Left side, top of seat
8. Left side, bottom of seat
9. Men's lounge
10. Women's lounge
11. Car thermostat, blower end
12. Car thermostat, opposite end
13. Window, right side
14. Window, left side
15. Floor radiator, right side
16. Floor radiator, left side
17. Right side, top of seat
18. Right side, bottom of seat
19. Left side, top of seat
20. Left side, bottom of seat
21. Men's lounge
22. Women's lounge
23. Car thermostat, blower end
24. Steam supply pipe

In addition to the Brown Recorder, several small, portable recording thermometers were located around the car to give continuous temperature records for single points. Mercury thermometers were used to give approximate spot checks on any desired points and to permit

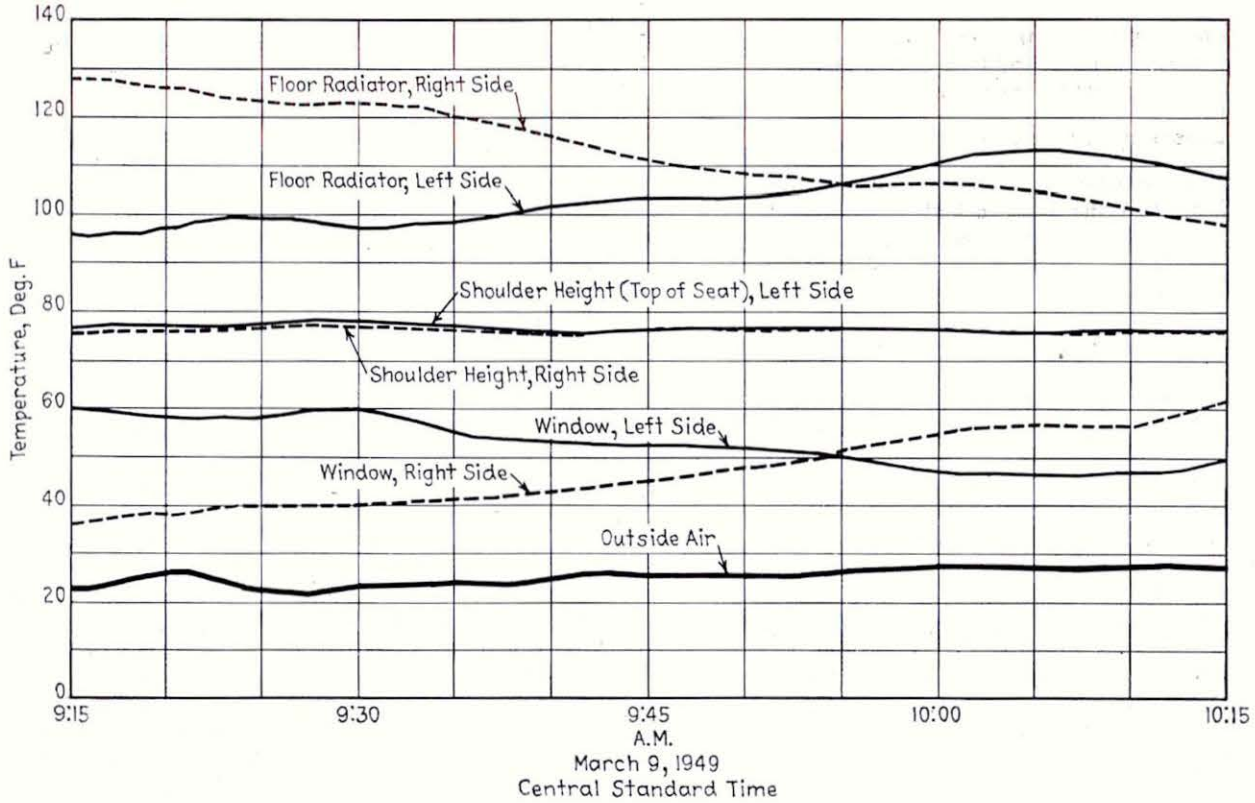


Fig. 3. A reduction in floor radiator temperature compensates for sun effect to maintain nearly identical temperatures on both sides of the car

continuous checking of the calibration of the Brown Recorder.

The recorder was operated continuously during the entire trip recording temperatures at all thermocouple locations in sequence, except during short intervals when it was recording a continuous record of a single point, and when readings were being taken for a log sheet by manually impulsing the instrument from point to point.

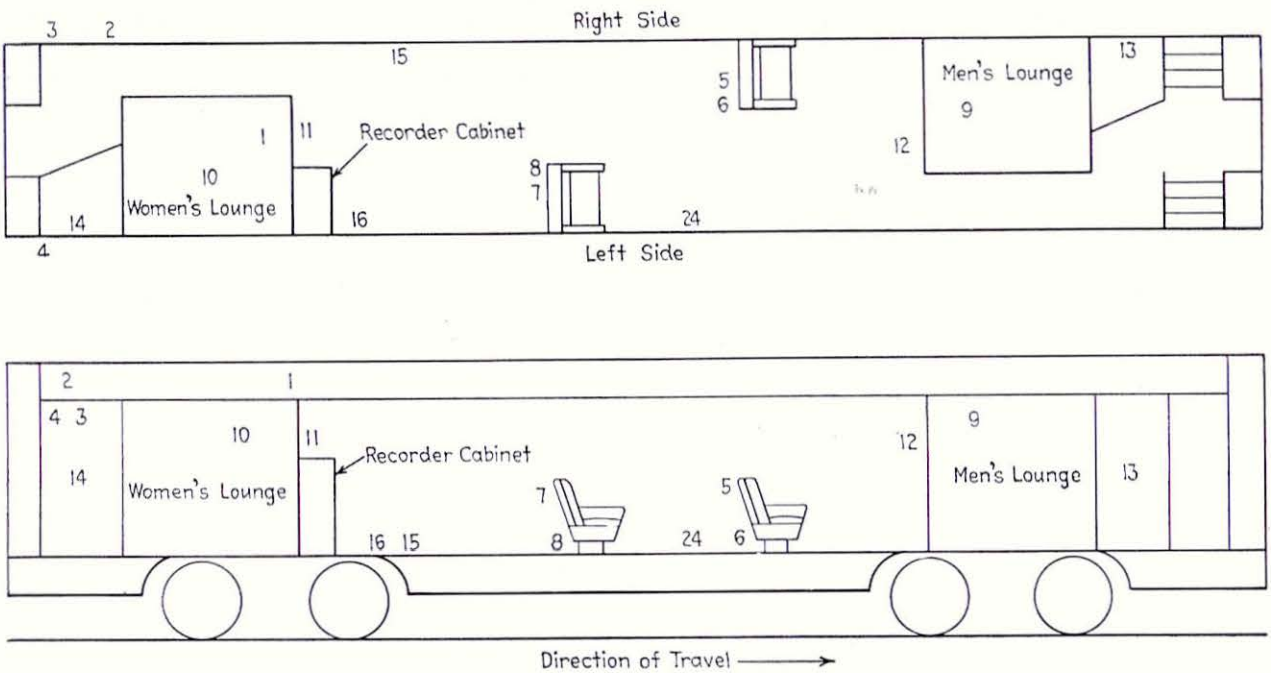


Fig. 4. Location of the thermocouples and recorder cabinet in the car for testing the heat-control system

The manual readings were taken only to obtain a condensed picture of conditions on the trip to be distributed to participating personnel.

Summary of Results

Temperatures were measured at heights from 6 in. to 7 ft. above the floor, on both sides and both ends, and in the lounges. All were continuously within the comfort zone from 71 to 77 deg. established by the American Society of Heating and Ventilating Engineers, and never was there a difference of more than 4 deg. between the highest and lowest temperatures in the car as long as trainline steam was available. With outdoor temperatures as low as 7 deg., the temperature of the overhead discharge air remained close to the car temperature. The floor radiator temperatures were stable, changing only when a change in window temperature indicated a need for more or less heat. The grill covering the floor radiators never became too hot to touch with the bare hand. A graph of the mean car temperature for the entire trip showed that the only measurable changes in car temperature occurred when the temperature setting was changed (as from "Day" to "Nite") although outdoor temperature varied from 7 deg. to 72 deg.

On Fig. 1, the curves labeled "Window, Right" and "Window, Left" show the temperatures at the inside surface of the windows on each side of the car. In general they follow the trend of the outside air temperature, remaining 10 to 20 deg. above it, except when there is a bright sun shining, in which case the window temperature on the sunny side can rise as much as 70 deg. above the outside air, as it did at 9:00 a.m., March 9. The left side was on the north, which may explain why it is generally a few degrees colder than the right, or south side.

The window temperatures determine the temperatures of water in the floor radiators, shown as the upper two curves in Fig. 1. As the window temperature drops, the floor-radiator temperature on that side is raised a proportional amount to supply the additional heat necessary to prevent the walls and windows from having a chilling effect upon the passengers. At 9:00 a.m., March 9, when the outside temperature was 7 deg. the bright sun had raised the left window temperature to 74 deg., causing the left floor radiator to drop to 87 deg. although the right floor radiator was still at 128 deg. During this time the band of car temperature neither rose, fell, nor widened. Immediately following this, the train changed direction, causing the sun to shine on the right side and causing a similar drop in that radiator while the left side returned to normal.

The thermocouple in the men's lounge was placed in a poor location where its temperature was affected mainly by the overhead discharge air. As a result this point read high during the "Nite" setting when a higher discharge air temperature is necessary to maintain the 2-deg. higher car temperature. However, mercury thermometer readings and passenger surveys indicated that this room was also within the band on the chart and comfortable. The women's lounge is shown to be within the band on both "Nite" and "Day" settings.

After six hours of the test had elapsed, a survey among passengers and railroad personnel observing the demonstration seemed to indicate that the 74 deg. setting was slightly too low, so it was raised to 75½ deg. at 6:15 p.m., March 8. It was not touched again during the entire trip except for setting the master switch to "Day" and "Nite" positions.

Fig. 2 shows the stability of temperature of the overhead discharge air that is made possible by a modulating value. The motor-driven valve admits heat continuously to the overhead coil, varying the amount of steam supplied only as heating-load changes occur, as indicated by the thermostat. The small changes in the first half of the discharge air curve are in response to slight load changes, caused by doors opening, wind changes, train speed, etc., although the total variation in discharge air temperature is less than five degrees.

In Fig. 2, the rapid response of the overhead system is indicated by the nearly vertical portion of the discharge air temperature curve in the center of the chart; changing to the "Nite" setting upset conditions momentarily by calling for a 2-deg. higher car temperature, so the overhead responded instantly by raising the temperature of the discharge air. As the car temperature begins to rise because of the warmer air being supplied, the discharge temperature begins to level off. Equilibrium was again reached at 11:37 p.m., when the "Nite" temperature was reached and the discharge was stable at 90 deg. Sun effect was absent and the outdoor temperature was nearly constant, so there was very little change in window temperatures. Under these conditions the floor radiator temperatures were stable, varying not more than 3 deg.

In Fig. 2 the discharge air is supplied at all times at temperatures close to those in the car. The discharge temperature on the "Day" setting is among or slightly below the car temperatures, while on the "Nite" setting it levels off about 13 deg. above the car temperatures.

By supplying air at a temperature near that of the car, stratification, or the tendency of air to form a warm layer at the ceiling and a cold layer at the floor, is reduced since there is very little difference in temperature between the incoming air and the air already in the car.

Fig. 1 shows the floor-radiator temperatures never exceeded 130 deg., although the outside temperature dropped as low as 7 deg. These moderate floor-radiator temperatures were adequate to prevent the floor from becoming uncomfortably cold, as shown by the lower boundary of the car temperature band which measures temperatures 6 in. above the floor, which remained in the comfort zone of 71 deg. to 77 deg. for daytime, and 73 deg. to 79 deg. for night.

Control Maintains Uniform Temperature

Fig. 3 shows how uniform temperatures are maintained on both sides of the car by means of the window-floor-radiator compensation. At 9:15 a.m. the right window was at 37 deg., the righ floor radiator at 128 deg., and the temperature at the seat top on that side was 76 deg. On the opposite side of the car the window was at 60 deg. due to sun effect, the floor radiator was at 96 deg., and the seat top was at 77 deg., or a difference of only 1 deg. inside despite the differences in outdoor conditions on the two sides of the car.

Continuing along Fig. 3, the sun effect changes from the left of the car to the right side because of a change in train direction, resulting in a drop in temperature of the right radiator and a rise in the left. Because of com-

pensation for sun effect, the seat top (or shoulder height) temperatures on both sides of the car remain within 1 deg. of each other.

The mean car temperature for the entire trip as represented by the center of the band on Fig. 1 and 2 (neglecting "steam off" periods) had a total variation slightly less than 1 deg. on any single temperature setting. This stability is facilitated by an electronic thermostat which measures outdoor air temperatures and repositions the steam valve when the outside temperature changes before that change is reflected in the car.

The reduction in the tendencies toward drafts is indicated by Figs. 1 and 2, which show that the air 6 in. above the floor is no more than 3 or 4 deg. cooler than the temperature near the ceiling. Thus there is no appreciable moving layer of cold air along the floor to produce a chilling sensation about the feet and ankles.

Operation of the system was entirely automatic, with no adjustments of any kind necessary after the initial raising of the temperature setting 1½ deg. at Boone, which merely required the turning of a knob by a member of the train crew. The Waukesha a.c. compressor was running with half evaporator at the beginning and end of the trip. Change over from heating to cooling and vice versa was automatic, with no resultant change in car temperature. No failures or weaknesses of any kind were encountered on the trip.

Periodically, during the trip, cards were passed out to all passengers in the car explaining briefly what was going on and providing space for the passengers to comment upon their comfort. The cards also provided a place for each passenger to check whether he was occupying an aisle seat or a window seat.

During the first six hours of the trip, when the temperature setting was 74 deg., the cards indicated that 37 per cent of the passengers desired a slightly higher temperature, while 63 per cent replied that the temperature was comfortable. As a result, the temperature setting was raised 1½ deg. Cards received during the remainder of the trip indicated that 90 per cent of the passengers were comfortable, with only 10 per cent desiring some slight change in temperature.

M. W. Smith New President Of Baldwin

Marvin W. Smith, executive vice-president of the Baldwin Locomotive Works since August 1, 1948, was elected president and chief executive officer on May 5. Mr. Smith was graduated from Texas Agricultural & Mechanical College in 1915 with a bachelor of science degree in electrical engineering, after which he joined the Westinghouse Electric Corporation. As a student engineer with that company he was selected by the late Benjamin G. Lamme, chief engineer of Westinghouse, for a special course of study in design problems.

Bachrach

Marvin W. Smith

From 1917 to 1930, Mr. Smith was instrumental in the development of many important power-generating projects. He was appointed division engineer in 1930 and was in charge of the designing of many large generators such as those for Hoover and Norris Dams. Under his direction, Westinghouse developed the "umbrella" type of construction for large waterwheel generators, now wisely used in low speed hydopower stations. He was named manager of engineering in 1936 and was elected vice-president in charge of engineering and research in 1939. Westinghouse awarded him the company's order of merit, a medal and citation, in 1938 for his outstanding services.

On July 29, 1948, Mr. Smith left Westinghouse to accept the executive vice-presidency of Baldwin (see *Railway Age* of August 21, 1948, page 68). Mr. Smith is a member of the boards of directors of Baldwin, the Midvale Company, the Flannery Bolt Company and the Philadelphia (Pa.) National Bank.

Based on a business originally founded by M. W. Baldwin in 1831, the present Baldwin Locomotive Works was incorporated in Pennsylvania in June, 1911. One of the largest domestic manufacturers of locomotives, including steam, electric and Diesel-electric units, the firm also produces, among other things, hydraulic turbines, rolled steel wheels, testing equipment, bronze propeller wheels, steel springs, steel forgings, and castings and ordnance materiel. Divisions and subsidiaries include the Eddystone division at Eddystone, Pa., where the company's general offices are located; the Standard Steel Works division at Burnham, Pa.; the Pelton Water Wheel Company, San Francisco, Cal.; and the Whitcomb Locomotive Company, Rochelle, Ill. For several years Baldwin has owned 383,425 shares, or 63.9 percent, of the outstanding capital stock of the Midvale Company of Nicetown, Philadelphia, which produces various types of steel, including ordnance and armor plate.

During 1948 Baldwin sold to Westinghouse 500,000 shares of its authorized but unissued common stock for $15.11 a share (see *Railway Age* of August 7, 1948, page 43). As a result, according to the annual report for 1948, Baldwin acquired over $7,500,000 of added working capital. In addition the report added, "a strong interest has been created at Westinghouse to provide Baldwin with electrical equipment of suitable character at such times as may be necessary to satisfy Baldwin's production schedules." Baldwin's 1948 annual report was summarized in the *Railway Age* of April 9, page 70.

The inspection station as seen from the upgrade side. Note the lean-to shelters for personnel at the ground level

Special "Pits" Aid Freight Car Inspection

Facilities on approach tracks of two classification yards on the Union Pacific permit all parts of moving equipment to be inspected from five enclosed positions

Complete inspection of moving freight cars—underneath, on the sides and on the top—as they pass up the approach track to the crest of the incline is one of the latest techniques to be introduced at retarder classification yards. A pioneer in this practice is the Union Pacific, which has adopted it at the road's new retarder yards at Pocatello, Idaho, and North Platte, Neb., the former having been completed late in 1947 and the latter in the fall of 1948*.

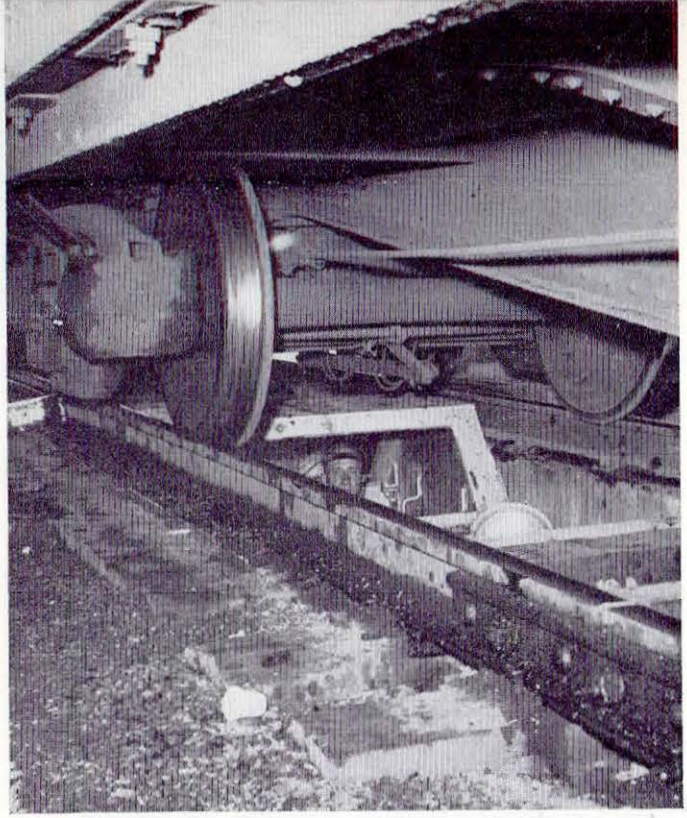
Five Positions at Each Station

At both of these yards an inspection station was constructed on the approach track to the incline, providing enclosed positions where five men may inspect the moving cars in complete safety and comfort. At each yard the approach track is carried on an embankment, and the inspection station embodies a concrete pit or passageway extending entirely through the fill. At the center of the passageway and between the rails is a position from which the undersides of the cars may be inspected as they pass overhead.

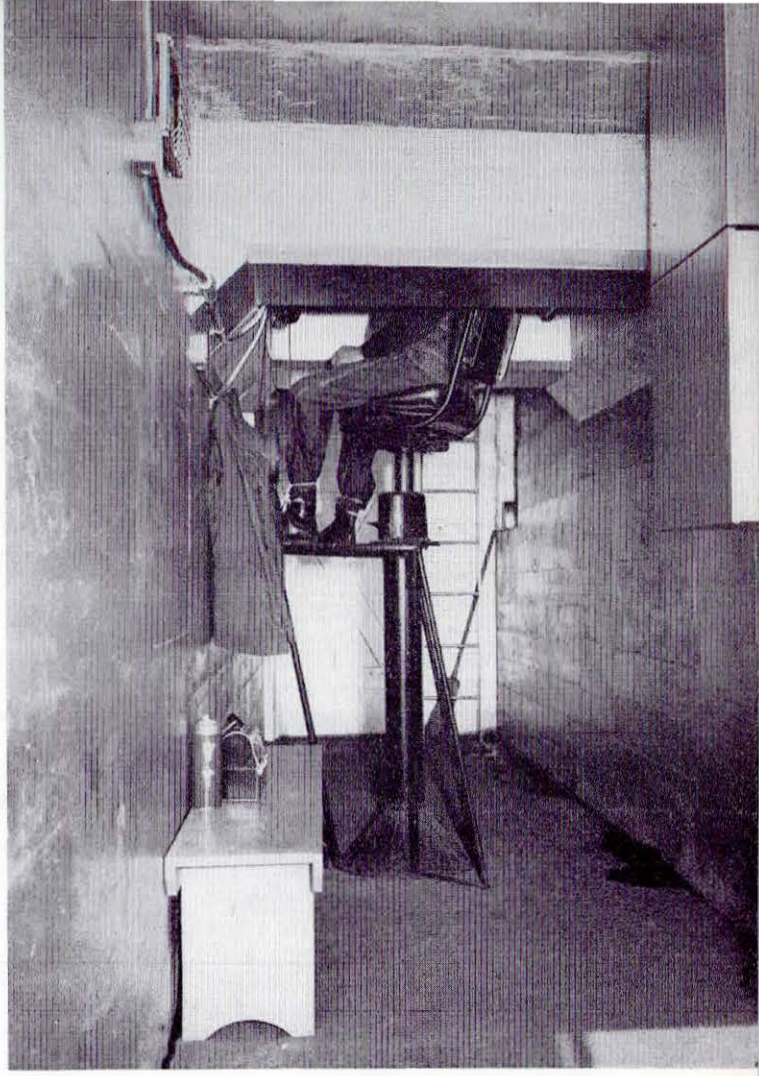
Can Look in Either Direction

On each side of the track and reached from the passageway is a pit in which a man may stand at a level convenient for viewing the sides of the wheels and trucks. These pits are each incorporated in the foundation for an enclosed shed which provides another inspection station at a level convenient for viewing the car roofs, running boards, grab irons and brake wheels. A feature of each installation is the use of 13 floodlights, carefully positioned to illuminate all parts of the cars covered by the inspection. Since the inspec-

* The Pocatello yard was the subject of a feature article in *Railway Age* of January 10, 1948, while the North Platte yard was described in the issue of October 30, 1948.



The inspector under the track views undersides of cars through shatterproof glass



Interior of the inspection pit under the track. Swivel seat for inspector permits him to swing around for view in other direction

tion stations at the two yards are substantially similar in design and construction, the remainder of this article will deal with the one built more recently—that at North Platte.

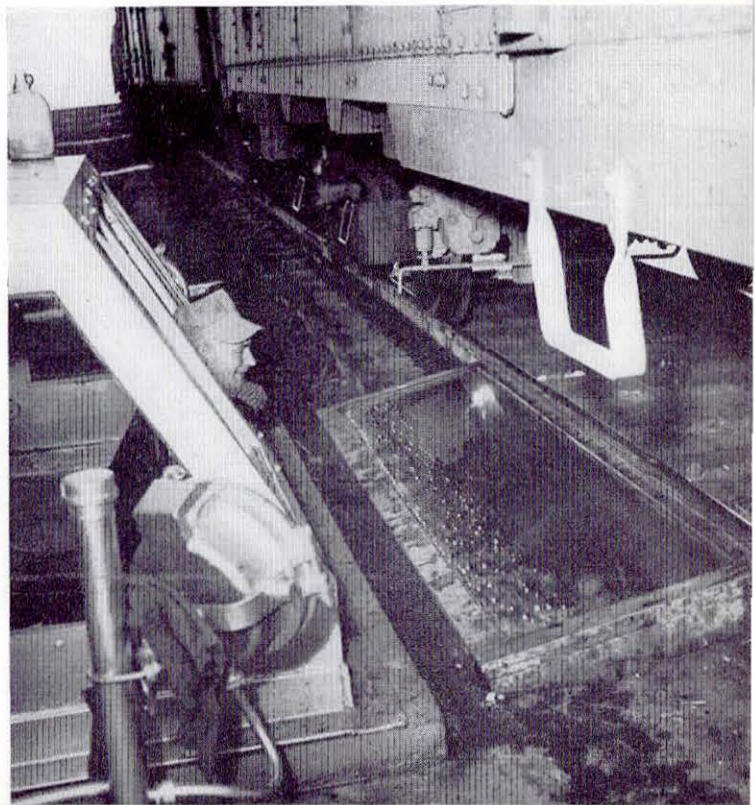
The car inspector stationed in the pit between the rails is protected overhead by a welded steel hood incorporating two inclined panels or windows of shatterproof glass, one facing in each direction. He sits in a swivel chair mounted on a steel column supported on the floor of the passageway. It is adjustable as to height in much the same manner as a barber's chair. Normally this inspector faces in the direction from which the cars are coming, but if he should desire another look he merely twirls his chair and looks through the other window.

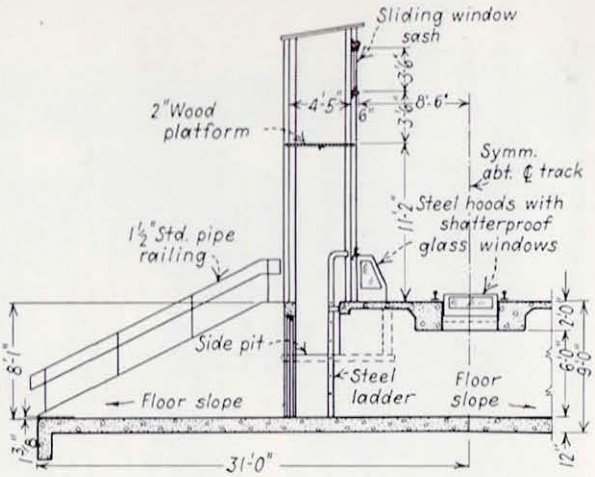
Incorporated in the concrete work of the inspection pit between the rails are recesses downgrade and upgrade from the hood, in which floodlights are mounted, two in each recess. The floodlights in each pair are so positioned that the undersides of the cars are fully illuminated.

Elevated Stations in Towers

The visible portions of the side inspection pits also consist in each case of a steel-and-glass hood, with shatterproof glass windows on the inclined side facing the tracks and at both ends. On the track side of each of these hoods there are three panels, of which the middle one is so hinged at the top that it can be opened inward and hooked to the ceiling. Between each side pit and the near rail is an inclined mirror, facing upward, by means of which the inspector can detect flaws that would not otherwise be visible. This mirror is 2 ft. wide and 8 ft. long. Two floodlights are placed

Inspector stationed at side of track can see undersides of cars reflected in inclined mirror





Section along transverse center-line of the inspection pit and through one of the towers

at each of the hoods, one at each end, to illuminate the wheels, the car underframes and the brake rigging for the benefit of the inspectors in the side pits.

The enclosed tower on each side of the track is 5 ft. by 16 ft. in plan, the latter dimension being parallel with the track, and is about 20 ft. high. At a height of about 15 ft. above the base of rail is a sliding-sash window opening on the track side of each tower. Inside each tower at a height of 11 ft. is a wood platform, reached by an interior steel ladder, on which the inspector stands. These towers have frames of steel angles with welded joints, and the siding consists of eight-gage flat steel sheets, also with welded joints.

To illuminate the roofs and sides of the cars there are two floodlights mounted on the front face of each tower, one on each side of the window. These and all the other floodlights mentioned are Pyle-National lights, 10 in. in diameter. All are mounted and directed in pairs and are so focused that they do not interfere with the vision of any of the inspectors. Still another floodlight, a Goodrich Reflecto, is mounted on the upgrade corner of one of the towers. Its purpose is to give illumination for carding bad-order cars. For this reason the light has a flat lens to illuminate a broad area. All the floodlights have 200-watt lamps.

Adjacent to each of the inspection sheds on the upgrade side is a small lean-to with a door opening on the track side. The purpose of these buildings is to provide shelter from the weather for the foreman in charge or for the employee who tacks bad-order cards on the sides of cars.

How Information Is Used

When one of the inspectors sees a defect in a passing car he announces the fact to the foreman by means of a system of talk-back loud-speakers. If the foreman decides that the car should be switched to the repair tracks he notifies the retarder yardmaster, who changes the switch list and informs the tower operators accordingly.

A short distance downgrade from the inspection station a device is provided between the rails to warn of any defective equipment hanging below standard clearance. If such equipment should strike this device flashing-light and buzzer signals are set off in the inspection pit beneath the track, warning the inspector to get out of the pit. A buzzer signal is also sounded in the retarder yardmaster's tower.

The inspection facilities at the Pocatello and North Platte yards were designed and constructed under the general supervision of W. C. Perkins, chief engineer of the Union Pacific.

The elevated stations in the towers command a view of car roofs, running boards, grab irons and brake wheels

Rail and Tie Purchases Up from Last Year

Railroad buying of miscellaneous materials in the first two months exceeded 1948 by 10 per cent; fuel off 15 per cent; equipment orders down sharply

Purchases of materials, supplies and fuel, excluding equipment, by the Class I railroads during the first two months of 1949 were almost exactly equal to those of the first two months of last year. In 1948, through February, the railroads spent $345,594,000 in such purchases, while during the same period of the current year their expenditures for similar items are estimated at $346,009,000. Heavier buying of manufactured items accounted for the fact that purchases attained this level during 1949, because fuel purchases, through February, were about $22 million or 15 per cent below the same months of 1948. Some easing of the supply situation probably helps to account for the rise in purchases of manufactured products, while the drop in expenditures for fuel is due, no doubt, to a combination of factors, including the traffic decline, a relatively warm winter and the fact that the railroads have had a much larger stock of fuel on hand during the last few months of 1948 and early 1949.

Inventories continued to rise in January, increasing by over $12 million in that month. This was in spite of a sizeable decline in fuel inventories and a slight drop in the value of scrap on hand.

Equipment orders during February totaled $4,395,000, including an estimated $1,395,000 for 332 freight cars and $3,000,000 for 30 passenger-train cars. There were no orders for locomotives.

1949 RAILWAY PURCHASES*

	February (000)	Two Month Totals 1949 (000)	Two Month Totals 1948 (000)
Equipment**	$ 4,395	$ 11,767	$128,319
Rail	8,784	16,143	15,900
Crossties	7,117	14,916	10,266
Other Material	93,504	192,874	175,775
Total from Manufacturers	$113,800	$235,700	$330,260
Fuel	57,000	122,076	143,653
Grand Total	$170,800	$357,776	$473,913

* Subject to revision
**Amount placed on order

FEBRUARY* PURCHASES OF MANUFACTURED GOODS (Excl. Equip. & Fuel)

Year	Feb. '49 Compared to Other Febs. (000) Amt.	% Change
1943	$57,277	+91
1944	78,632	+39
1945	74,656	+47
1946	60,269	+82
1947	88,748	+23
1948	99,905	+10
1949	109,405	

Month	Feb. '49 Compared to Other Months '48 and '49 (000) Amt.	% Change
Jan. '48	$102,136	+ 7
Mar. '48	117,300	— 7
May '48	105,076	+ 4
July '48	110,457	— 1
Sept. '48	115,892	— 6
Nov. '48	117,367	— 7
Jan. '49	114,528	— 4
Feb. '49	109,405	

Year	Two Month Totals '49 and Other Years (000) Amt.	% Change
1943	$115,125	+95
1944	156,937	+43
1945	152,610	+47
1946	138,124	+62
1947	186,710	+20
1948	201,941	+11
1949	223,933	

FEBRUARY* PURCHASES OF RAIL

Year	Feb. '49 Compared to Other Febs. (000) Amt.	% Change
1943	4,340	+ 102
1944	6,264	+ 40
1945	5,962	+ 47
1946	842	+1,043
1947	7,030	+ 25
1948	8,353	+ 5
1949	8,784	

Month	Feb. '49 Compared to Other Months '48 and '49 (000) Amt.	% Change
Jan. '48	$7,547	+16
Mar. '48	8,822	——
May '48	6,841	+28
July '48	7,143	+23
Sept. '48	9,383	— 6
Nov. '48	10,478	—16
Jan. '49	7,359	+19
Feb. '49	8,784	

Year	Two Month Totals '49 and Other Years (000) Amt.	% Change
1943	$9,151	+ 76
1944	12,687	+ 27
1945	11,696	+ 38
1946	5,931	+272
1947	14,753	+ 9
1948	15,900	+ 2
1949	16,143	

FEBRUARY* PURCHASES OF CROSSTIES

Year	Feb. '49 Compared to Other Febs. (000) Amt.	% Change
1943	$4,530	+57
1944	6,675	+ 7
1945	5,459	+30
1946	6,122	+16
1947	6,930	+ 3
1948	4,636	+54
1949	7,117	

Month	Feb. '49 Compared to Other Months '48 and '49 (000) Amt.	% Change
Jan. '48	$5,630	+26
Mar. '48	5,868	+21
May '48	6,137	+16
July '48	7,621	— 7
Sept. '48	9,093	—22
Nov. '48	8,426	—16
Jan. '49	7,799	— 9
Feb. '49	7,117	

Year	Two Month Totals '49 and Other Years (000) Amt.	% Change
1943	$ 8,567	+74
1944	13,570	+10
1945	11,060	+35
1946	11,944	+25
1947	14,351	+ 4
1948	10,266	+45
1949	14,916	

*Subject to revision

FEBRUARY* PURCHASES OF OTHER MATERIAL

Feb. '49 Compared to Other Febs. (000)			Feb. '49 Compared to Other Months '48 and '49 (000)			Two Month Totals '49 and Other Years (000)		
Year	Amt.	% Change	Month	Amt.	% Change	Year	Amt.	% Change
1943	$48,407	+93	Jan. '48	$ 88,959	+ 5	1943	$ 97,407	+98
1944	65,693	+42	Mar. '48	102,610	— 9	1944	130,680	+48
1945	63,245	+48	May '48	92,098	+ 2	1945	129,854	+49
1946	53,305	+75	July '48	95,693	— 2	1946	120,249	+60
1947	74,788	+25	Sept. '48	97,416	— 4	1947	157,606	+22
1948	86,816	+ 8	Nov. '48	98,463	— 5	1948	175,775	+10
1949	93,504		Jan. '49	99,370	— 6	1949	192,874	
			Feb. '49	93,504				

FEBRUARY* PURCHASES OF FUEL

Feb. '49 Compared to Other Febs. (000)			Feb. '49 Compared to Other Months '48 and '49 (000)			Two Month Totals '49 and Other Years (000)		
Year	Amt.	% Change	Month	Amt.	% Change	Year	Amt.	% Change
1943	$41,542	+37	Jan. '48	$73,468	—22	1943	$ 81,425	+50
1944	50,041	+14	Mar. '48	68,932	—17	1944	100,382	+22
1945	43,349	+31	May '48	72,968	—22	1945	91,175	+34
1946	49,345	+16	July '48	68,011	—16	1946	100,657	+21
1947	55,651	+ 2	Sept. '48	69,743	—18	1947	115,253	+ 6
1948	70,185	+19	Nov. '48	68,225	—16	1948	143,653	—15
1949	57,000		Jan. '49	65,076	—12	1949	122,076	
			Feb. '49	57,000				

FEBRUARY* TOTAL PURCHASES (Excl. Equip.)

Feb. '49 Compared to Other Febs. (000)			Feb. '49 Compared to Other Months '48 and '49 (000)			Two Month Totals '49 and Other Years (000)		
Year	Amt.	% Change	Month	Amt.	% Change	Year	Amt.	% Change
1943	$ 98,819	+68	Jan. '48	$175,604	— 5	1943	$196,550	+76
1944	128,673	+29	Mar. '48	186,232	—11	1944	257,319	+34
1945	118,015	+41	May '48	178,044	— 7	1945	243,785	+42
1946	109,614	+52	July '48	178,468	— 7	1946	238,781	+45
1947	144,399	+16	Sept. '48	185,635	—10	1947	301,963	+15
1948	169,990	— 2	Nov. '48	185,592	—10	1948	345,594	——
1949	166,405		Jan. '49	179,604	— 7	1949	346,009	
			Feb. '49	166,405				

FEBRUARY* INVENTORIES OF RAIL

Feb. '49 Compared to Other Febs. (000)			Feb. '49 Compared to Other Months '48 and '49 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1943	$19,583	+86	Jan. 1, '48	$32,924	+11
1944	24,331	+50	Mar. 1, '48	37,341	— 2
1945	25,149	+45	May 1, '48	31,911	+14
1946	22,439	+62	July 1, '48	30,837	+18
1947	31,447	+16	Sept. 1, '48	32,212	+13
1948	36,120	+ 1	Nov. 1, '48	30,916	+17
1949	36,408		Jan. 1, '49	33,243	+10
			Feb. 1, '49	36,408	

FEBRUARY* INVENTORIES OF SCRAP

Feb. '49 Compared to Other Febs. (000)			Feb. '49 Compared to Other Months '48 and '49 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1943	$10,408	+80	Jan. 1, '48	$13,225	+42
1944	9,937	+89	Mar. 1, '48	16,409	+14
1945	10,021	+87	May 1, '48	16,217	+15
1946	11,677	+60	July 1, '48	14,210	+32
1947	11,929	+57	Sept. 1, '48	15,927	+18
1948	13,336	+40	Nov. 1, '48	15,210	+23
1949	18,735		Jan. 1, '49	18,849	— 1
			Feb. 1, '49	18,735	

FEBRUARY* INVENTORIES OF CROSSTIES

Feb. '49 Compared to Other Febs. (000)			Feb. '49 Compared to Other Months '48 and '49 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1943	$56,587	+66	Jan. 1, '48	$92,300	+ 2
1944	72,039	+31	Mar. 1, '48	98,843	— 5
1945	75,259	+25	May 1, '48	92,711	+ 2
1946	75,886	+25	July 1, '48	82,143	+15
1947	88,293	+ 7	Sept. 1, '48	78,309	+20
1948	93,492	+ 1	Nov. 1, '48	79,343	+19
1949	94,164		Jan. 1, '49	94,256	——
			Feb. 1, '49	94,164	

FEBRUARY* INVENTORIES OF FUEL

Feb. '49 Compared to Other Febs. (000)			Feb. '49 Compared to Other Months '48 and '49 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1943	$43,654	+110	Jan. 1, '48	$66,388	+38
1944	49,056	+ 87	Mar. 1, '48	65,071	+41
1945	56,398	+ 63	May 1, '48	62,094	+48
1946	55,613	+ 65	July 1, '48	83,946	+9
1947	51,164	+ 79	Sept. 1, '48	91,850	——
1948	66,727	+ 38	Nov. 1, '48	94,982	— 3
1949	91,831		Jan. 1, '49	96,900	— 5
			Feb. 1, '49	91,831	

FEBRUARY* INVENTORIES OF OTHER MATERIAL

Feb. '49 Compared to Other Febs. (000)			Feb. '49 Compared to Other Months '48 and '49 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1943	$374,097	+67	Jan. 1, '48	$560,703	+12
1944	387,899	+61	Mar. 1, '48	577,078	+ 9
1945	440,353	+42	May 1, '48	603,972	+ 4
1946	439,184	+43	July 1, '48	610,025	+ 3
1947	490,734	+28	Sept. 1, '48	611,861	+ 2
1948	570,201	+10	Nov. 1, '48	615,061	+ 2
1949	626,423		Jan. 1, '49	611,864	+ 2
			Feb. 1, '49	626,423	

FEBRUARY* TOTAL INVENTORIES

Feb. '49 Compared to Other Febs. (000)			Feb. '49 Compared to Other Months '48 and '49 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1943	$504,329	+72	Jan. 1, '48	$765,540	+13
1944	543,262	+60	Mar. 1, '48	794,742	+ 9
1945	607,180	+43	May 1, '48	806,905	+ 8
1946	604,799	+43	July 1, '48	821,161	+ 6
1947	673,567	+29	Sept. 1, '48	830,159	+ 5
1948	779,876	+11	Nov. 1, '48	835,512	+ 4
1949	867,561		Jan. 1, '49	855,112	+ 1
			Feb. 1, '49	867,561	

*Subject to revision

New and Improved Products of the Manufacturers

IMPROVED VISIBLE ACCOUNTING METHOD

Improvements in its car accounting system have been announced by the Transportation Systems Department of Remington Rand, Inc., 315 Fourth ave., New York 10. This system still uses as the basic tool the Kardex visible records, with the new Record Dexigraph doing the work of transcription for per diem reports.

Heretofore, in keeping track of foreign cars, this system used the principle of daily posting to cards the first two or three digits of a car number, the last three digits already showing on typed inserts which had been placed under the visible margin. (When making up per diem reports, total days each foreign car was on line and the amount of per diem earned are posted on slips which also are placed in the visible margin.) Under the old system, clerks merely posted the first two or three digits of the number to the record.

Under the present system, it is the first three (or four) digits which are shown (typed) on the inserts in the visible margin and the last two which are posted by the clerk. (The first three or four digits correspond to classes of equipment held by various foreign roads. This new method of posting makes possible elimination of many sortings, according to the manufacturer.)

Also shown in the visible margin is the range of numbers to be handled on any one card. Thus, under "beginning" number might be 1461 and under "final" no. would be, for example, 00/20. The record for one year of any three cars having common first three or four digits can be posted to one card. The new method thus makes possible the posting of car records, for any road, in numerical order, so that when the panels are photographed, after per diem days are figured and extensions made, and the report is made to the owning road, that railroad can quickly check its record against per diem reports. Numerical sequences by roads also have the advantage, it is said, of permitting quicker reference to the record of any one car than did the older plan. Another advantage is faster posting, said to be secured through eliminating the necessity for clerks to set up books and make transfer records. Also provided for in this new method is a means whereby short receipts, bad orders and claims may be posted by the use of a Graph-A-Matic signal.

Taking care of the records for home road cars also has been improved. Through the use of summary slips, which are inserted under the visible margin of the Kardex, it is now possible to record with one picture the number of days each car was on each foreign line. (See Fig. 2.)

IMPROVED PHOTOCOPY CAMERA

Copying versatility, ease of operation and complete mobility to permit point of use operation are among the advantages claimed for the new high-speed photocopy camera recently announced by the Photo Records Division of Remington Rand, Inc., 315 Fourth ave., New York 10. Mounted on casters, this unit can be rolled from one department to another as needed. Since this unit plugs in to any standard 110 volt electrical outlet, no special wiring of any kind is needed.

Called the "Record Dexigraph," this

machine can copy any record up to 9¾ in. by 14 in. at original size or at any of five reductions down to 50 per cent of original size. Larger records up to 14 in. by 17 in. can be copied at various smaller sizes. With the average operator, production with this machine is said to be 300 exposures or 150 fully processed copies per hour.

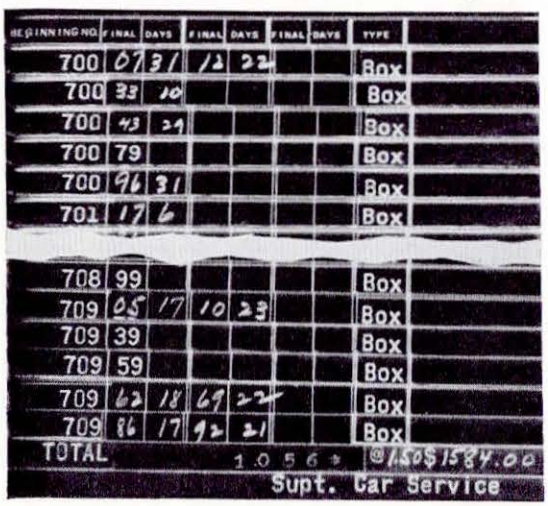


Fig. 1. Per diem report made up with visible records and Dexigraph

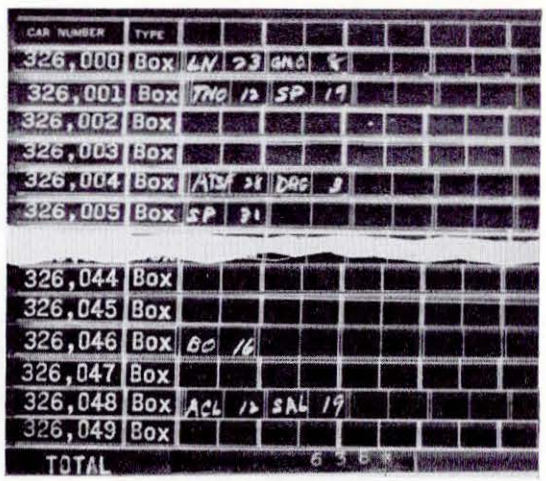


Fig. 2. Record of home-road cars showing days each home-line car was on each foreign line

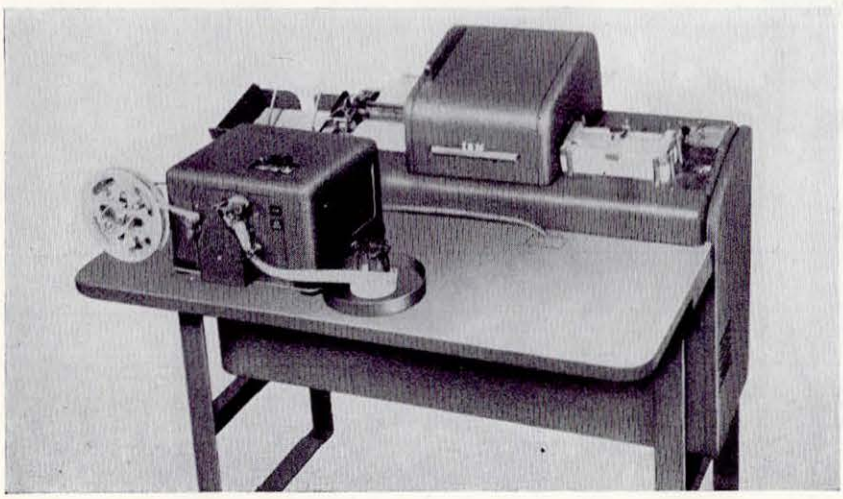
ELECTRONIC CALCULATING PUNCH

An electronic calculating punch, made by International Business Machines, 590 Madison ave., New York 22, was recently introduced. The machine has basic capacity for an 8-digit multiplicand and a 5-digit multiplier, to obtain a 13-digit product. Calculations involving larger factors are performed by repeated use of the basic capacity in the same run. In division a basic 13 digits may be divided by 8 digits, to obtain a 5-position quotient. Speed of these calculations is reportedly much faster than has been possible heretofore.

PORTABLE BOOKKEEPER

A new portable posting and figuring machine which can be used for problems of addition, subtraction, multiplication and division, in addition to posting of accounts receivable, accounts payable, general ledger, payroll and other records, has been announced recently by Underwood Corporation, 1 Park ave., New York 16. In all work that it does this machine automatically prints a complete record and a proof to permit checking of all figures.

The machine is built for all forms in standard business use. There are 14 distinct automatic operations, including printing of dates and descriptive symbols, tabulation, subtraction, printing of debit and credit balances and paper feed. The operator has only to enter the desired figures and the machine does the rest, regardless of the posting application, the manufacturer states. The keyboard is the ten-key natural sequence type.



TWIN PUNCH MACHINES

International Business Machines Corporation, 590 Madison avenue, New York 22, has introduced two new punch card accounting machines, one a card-controlled tape punch and the other a tape-controlled card punch. With these machines cards may be punched in one location for use as original records for the preparation of reports, for example, while through the medium of a paper tape, a duplicate set of cards may be prepared in an entirely different location. Thus a central office can obtain duplicate records from branches without the latter forwarding the actual cards.

The branch office, using the card-controlled tape punch, prepares the tape for the main office and mails it in. At the central headquarters the tape-controlled card punch is used to interpret the tape and punch the information into cards. It is also possible with the same machines to send the information between two points by commercial wire service, an operation which is performed automatically and at high speed.

AUTOMATIC DISK RESURFACER

SoundScriber Corp., 146 Munson st., New Haven 4, Conn., recently brought out the SoundEraser, described as a completely automatic device which erases the recordings from the plastic Vinylite discs which are used to record along with its SoundScriber dictation machine. Within less than a minute, it is said, it completely removes the impression of a conversation in a bath of heat and infrared rays. The operator merely places the disk on a spindle and presses a button; the machine does the rest. The company states that each disk can be "erased" 25 or more times. The capacity of the machine is reported to be more than 800 disks in an eight-hour day.

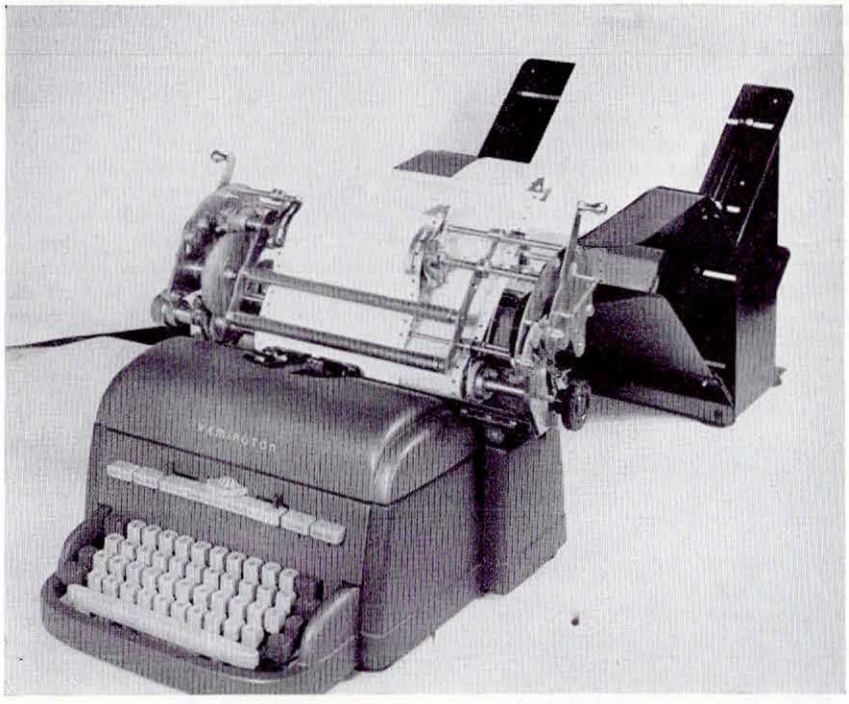
ELECTRIC TYPEWRITER WITH DUAL FEED

A new electric typewriter which can be equipped with dual feed has just been announced by Remington Rand, Inc., 315 Fourth ave., New York 10. This new machine has manifold dial control which is said to permit the operator to make multiple copies with no added effort on his part. The carriage is standard and will handle paper up to 13 in. wide.

All character keys are located in standard fashion on the keyboard while some of the control keys are grouped on a control panel. However, the tabulator, carriage return, shift keys, shift lock and back spacer are on the keyboard.

In order to facilitate cleaning and repair of the machine, an easy way to remove top plate and platen has been provided, so that the operator can perform these operations daily with little trouble, the manufacturer states.

This machine is provided in two models, one fitted with a single pin feed device for continuous operation while the other is equipped with the General Register Company's dual eject feeding device to handle two different sized forms.



PORTABLE TELEVISION FOR INDUSTRY

"Vericon," a three-unit television arrangement, was announced recently by Remington Rand, Inc., 315 Fourth ave., New York 10. Designed for use in industry, this system provides the somewhat remote observer with the opportunity to see either the person to whom he is talking on an intercommunication system or to observe a demonstration being carried on in some other locality. Activities as far away as 4,000 ft. can be observed by this means.

One of the three units is the camera, which can be operated by anyone, it is

said, following a reading of the instructions.

The second is the pulse power unit, which generates the power necessary to activate the Vericon system. Power supply for this unit is obtained by plugging in any 110 volt, 60 cycle current supply. Third in this array is the master control monitor and viewer, with a 42-sq. in. screen. Master controls for remotely operating the camera are recessed in its face.

This unit, too, is reported to be easy for the average person to operate. A fourth unit, an extension viewer, is available, so that others in different locations can see everything visible to the person operating the master unit.

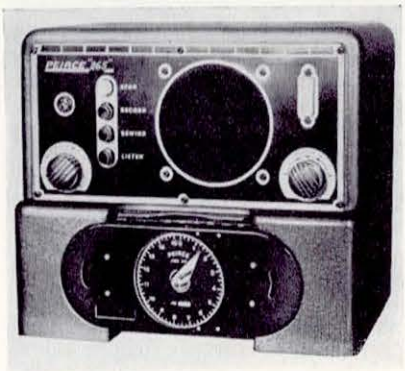
RECORDAK FILM READER

A new motor-driven microfilm reader, with constant focus at three speeds and variable magnification of 24 to 35 diameters, has been announced by Recordak Corporation, subsidiary of Eastman Kodak Company, Rochester 4, N. Y. This "Recordak Transcription Reader" is made for organizations which refer to 16mm. film records frequently, but the manufacturer will make available accessory parts for converting the reader to accommodate 35mm. film.

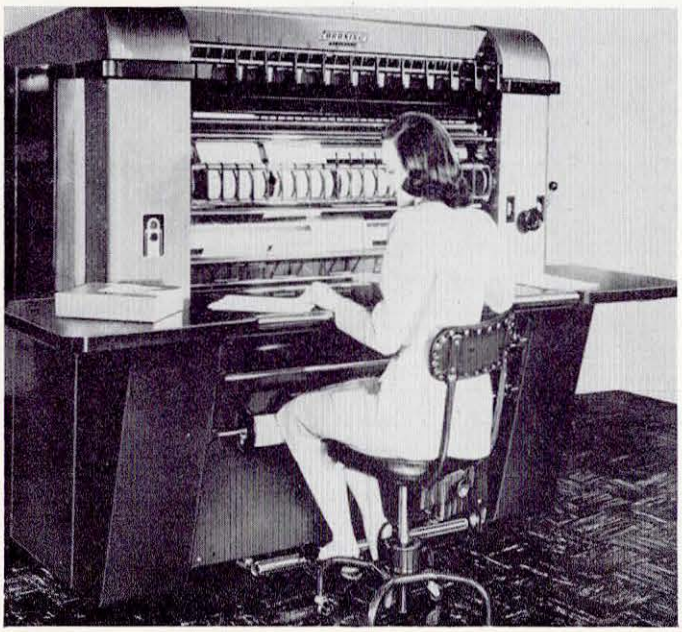
The three speeds are available in both forward and reverse motions. Top speed of 400 ft. per min. is employed for locating the general position of an image quickly and for fast rewinding. Slow speeds of one-half foot to 10 feet per minute are for identifying particular documents. These speeds can be adjusted, by a rheostat. A turret top screen (see illustration) can be rotated 360 deg. so that it can be seen from any position.

By means of a prism, controlled by a knob on the front of the cabinet drawer, film images can be turned quickly to an upright position on the screen, regardless of their position on the film. A scanning device centers images on the screen so that the full width of the film can be viewed at maximum magnification.

The lamp house in the reader drawer is cooled by a fan which is said to assure a minimum of heat radiation. A high wattage lamp can be used, increasing illumination on the screen and sharper contrast of images.



One of the three new models of wire recorders, produced recently by the Peirce Wire Recorder Corporation, Evanston, Ill. Voices are recorded on wire cartridges, and a "discriminating" microphone is said to pick up only the voice of the person dictating. Magnetic erasing is used to correct any errors during dictation. The model pictured here is the "Dictater." There is also a transcriber and a machine combining the two



BRUNING WHITEPRINTER

Recently announced by the Charles Bruning Company, Chicago, is the Volumatic Model 93 Whiteprinter, for large volume duplicating work. This machine produces direct positive prints (black lines on white or tinted stocks) directly from original drawings or documents without intermediate steps, at speeds up to 105 sq. ft. per min., the manufacturer states. The process is said to be odorless, so the printer can be operated in plant or office without ventilating ducts.

Built into this machine is a constant voltage transformer which compensates for fluctuations between 190 and 250 volts in public power lines, thus assuring uniform prints at all times.

GENERAL NEWS

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John Barbuto Rides Again—On $250,000 Lobby Kitty

John Barbuto, Trenton, N. J.'s, intrepid truck operator, who, as reported in the *Railway Age* of April 9, recently won the distinction of carrying the largest truck overload ever recorded in Pennsylvania—132,000 lb. on a truck registered for 45,000—is at it again. But John is obviously slipping. This time, according to the Harrisburg, Pa., Evening News, he only had 85,000 lb. on his little 45,000-lb. truck. And what's more, he got nicked for *two* fines, totaling $80, at North Huntingdon, the second one for attempting to resume his trip after disobeying police orders to unload his excess weight.

Moreover, John better look to his laurels. He has rivals—James Krony, of McKees Rocks, who was toting 88,240 lb. of steel on one truck, and Earl Miller, of Nottingham, who was found to be carrying 92,560 lb.

The Pennsylvania Motor Truck Association is reported to have declined comment on these violations of the state's truck weight law, but the April 25 issue of Transport Topics, official weekly publication of American Trucking Associations, reported the formation of the "Pennsylvania Motor Truck Educational League," *with a $250,000 budget*, "to ascertain the views on highway transport progress of all candidates for public office and to spearhead opposition to those who would hamper or obstruct the proper use of the state's highways." W. W. Ward, of Altoona, and James P. Clarke, of Philadelphia, were listed as co-chairman of the league.

The same issue of Transport Topics, commenting editorially on the league's formation, says bluntly: "The first move will be to ascertain the highway transport views held by all candidates for public office and to spearhead opposition to those who would obstruct proper use of highways. Legislators and prospective office-holders understand such action. They know it means votes for or against them."

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Because the transportation industry is one of those with "vital defense aspects," Congress cannot "sit idly by" and permit it to "disintegrate," the senator said. At the same time, he added, the solution of current transportation problems "is not the responsibility of Congress alone, and Congress must be wise enough to realize it." Thus it is his view that private management "must be given a full opportunity to bring forth the answers"; that Congress and the regulatory agencies

John Barbuto Rides Again—On $250,000 Lobby Kitty

John Barbuto, Trenton, N. J.'s, intrepid truck operator, who, as reported in the *Railway Age* of April 9, recently won the distinction of carrying the largest truck overload ever recorded in Pennsylvania—132,000 lb. on a truck registered for 45,000—is at it again. But John is obviously slipping. This time, according to the Harrisburg, Pa., Evening News, he only had 85,000 lb. on his little 45,000-lb. truck. And what's more, he got nicked for *two* fines, totaling $80, at North Huntingdon, the second one for attempting to resume his trip after disobeying police orders to unload his excess weight.

Moreover, John better look to his laurels. He has rivals—James Krony, of McKees Rocks, who was toting 88,240 lb. of steel on one truck, and Earl Miller, of Nottingham, who was found to be carrying 92,560 lb.

The Pennsylvania Motor Truck Association is reported to have declined comment on these violations of the state's truck weight law, but the April 25 issue of Transport Topics, official weekly publication of American Trucking Associations, reported the formation of the "Pennsylvania Motor Truck Educational League," *with a $250,000 budget,* "to ascertain the views on highway transport progress of all candidates for public office and to spearhead opposition to those who would hamper or obstruct the proper use of the state's highways." W. W. Ward, of Altoona, and James P. Clarke, of Philadelphia, were listed as co-chairman of the league.

The same issue of Transport Topics, commenting editorially on the league's formation, says bluntly: "The first move will be to ascertain the highway transport views held by all candidates for public office and to spearhead opposition to those who would obstruct proper use of highways. Legislators and prospective office-holders understand such action. They know it means votes for or against them."

When the railroads try to present *their* views on such matters, Transport Topics calls it "lobbying."

"must guide and assist, not direct and hinder."

"Intelligent Self-Interest" of Shippers

Transportation Commissioner Brown of the Cleveland Chamber of Commerce finds the threat of transport nationalization "very serious indeed," but he expressed his belief it can be held off if the four groups which have a "duty to do something" proceed in accordance with the national interest. The groups Mr. Brown had in mind are the regulatory agencies, Congress, the carriers, and the shippers.

He suggested that the regulatory agencies "observe the limits of the powers granted them by Congress," and spend less time "in mapping new areas for the exercise of regulatory powers." As for Congress, Mr. Brown said it "should view every effort toward strengthening the power or broadening the jurisdiction of any governmental agency with an extremely jaundiced eye"; and that it "should regularly survey the results" of the regulatory laws it enacts.

As to the carriers, "the most important element is that of attitude," Mr. Brown said. "We face a curious paradox," he continued. "On the one hand carrier management complains bitterly that it is restricted to the point of impotency and on the other it rushes to the boards or commissions with its troubles." Meanwhile, the shippers, as Mr. Brown put it, "must come to the realization that they have a direct stake in the successful maintenance of private competitive operation of our transportation agencies." He explained that "by this I do not mean that they should take the position which we have all heard called 'statesmanlike'—that is to say that they must agree with the carriers whenever they seek increases in rates." What he meant was that shippers "should not at once froth at the month when increases are proposed"; they "must study each situation and base their conclusion on what is fair and just, which is another way of saying they should follow the trend of intelligent self-interest."

Eastern Roads Defend Proposed Rate Pact

Urge I.C.C. to approve Bulwinkle-Act agreement

Hearings in connection with the Interstate Commerce Commission's consideration of the rate-procedures agreement proposed for commission approval by eastern railroads got under way in Washington, D. C., on May 11 before Commissioner Rogers and Examiner Burton Fuller. The proceeding is docketed as Section 5a Application No. 3, the proposed agreement having been filed under that section of the Interstate Commerce Act which was added last year by the Bulwinkle-Reed Act.

In addition to those of interested railroads, appearances entered include those of the Department of Justice, the National Industrial Traffic League, and the American Short Line Railroad Association. The latter two are supporting interveners while the Justice Department is opposed to commission approval of the pact. The department did not indicate at the opening session of the hearing whether it would follow in this case the course it adopted at the recent hearing on the agreement proposed by carrier members of the Western Traffic Association. There its attorneys neither cross-examined railroad witnesses nor introduced any evidence of their own (see *Railway Age* of April 16, page 79).

When a copy of the eastern application and proposed agreement was offered as an exhibit at the present hearing's opening session, the Justice Department attorneys registered their objection to the consideration as evidence of what they called "self-serving" material in the application. Commissioner Rogers stated that the exhibit would be received and marked for identification, and that a ruling on its admissibility as evidence would be deferred until after the cross-examination was completed.

The first railroad witness in support of the agreement was John J. Fitzpatrick, chairman of the Traffic Executive Association—Eastern Territory. He made a comprehensive statement, explaining and defending the proposed agreement and its specific provisions. The "basic purpose" of the pact, he said, is to enable the carrier parties thereto "to establish and maintain traffic matters in compliance with law and in furtherance of the national transportation policy." The proposed organization and procedures, he explained, "are the same in principle" as those which have been in effect for years; but they have been modified in the agreement "in the interest of uniformity and with a view to simplifying and streamlining to the utmost."

Dealing with those provisions of the agreement which are designed to accord individual carriers the right to take independent action, Mr. Fitzpatrick replied at some length to the Justice Department's contention that "free and unrestrained right to take independent action" is not accorded by such provisions. He called such a contention "contrary to the plain text of the agreement," and one which comes down to a claim that "clear language is without meaning." He also cited instances of independent actions taken by railroads in the past "under this language of the agreement."

Mr. Fitzpatrick was followed in turn by H. W. Von Willer, vice-president of the Erie, and Fred Carpi, vice-president of the Pennsylvania; and several other traffic executives were scheduled to testify at subsequent sessions of the hearing. Summing up his presentation, Mr. Von Willer said that the interests of both carriers and shippers "are best served through the medium of rate committees," because rate conferences are "the connecting link between our transportation system and its users."

"The termination of the work and functions of the committees provided for by the present agreement would inevitably result in chaotic conditions," Mr. Von Willer also said. "We would, as a practical matter, be denied access to the basic facts which we must have if we are to comply with our legal duty to establish and maintain rates which are reasonable and free from discrimination. Our shippers would be cut off from the protection which the present machinery affords to them and would be subjected to discrimination and prejudice. The stability of the railroad industry would be threatened contrary to the public interest."

Mr. Carpi, in his summation, said that a full appreciation of the advantages of the conference method of rate construction could be had only in conjunction with an understanding of the "ramifications of free enterprise in this country." He had in mind the fact that the nation is a "vast" one, with "tremendous natural resources" and an "enormous capacity for consumption of all types of goods."

"To meet the necessities of this vast, varied and widespread flow of commerce," he continued, "it is important that the railroads be in a position to provide proper freight rates promptly. In doing so they have both the legal and moral obligation to consider the rights of all concerned. The railroads could not possibly respond fully and promptly to these obligations without the conference procedure which has been developed by the process of trial and error. It is unrealistic to believe that the necessities of commerce could be fully and satisfactorily met by dealing with our patrons at arm's length, which would result if the conference procedure was abolished and the shippers had to file formal complaints with the Interstate Commerce Commission to obtain needed rate adjustments."

Taxes Gave U. S. Big Freight Rate Discount

Report on R.F.C. reparations claim shows 71 per cent offset

How railroad payments of income and excess-profits taxes returned to the federal government a substantial part of the money it paid in freight charges during World War II has been pointed out by Examiner Howard Hosmer of the Interstate Commerce Commission's staff. Mr. Hosmer discussed the matter in a proposed report in which he recommended that the commission dismiss a complaint wherein the Reconstruction Finance Corporation is seeking repara-

tions totaling approximately $148,279 on the basis of allegations that the rates it paid on shipments of tin ore and concentrates from New York and other eastern points to Texas City, Tex., were "unjust and unreasonable."

The examiner's comment on the income and excess-profits tax phase, which he called "somewhat novel," aroused considerable interest because the same issue has been raised with respect to the so-called reparations cases—the 17 pending complaints whereby the government is seeking recovery of amounts, the total of which has been estimated at from $2 billion to $3 billion. While Mr. Hosmer would have the commission find that the rates assailed by the R.F.C. were just and reasonable as measured by standards in the Interstate Commerce Act, he went into the tax matter to point out that there could be no full recoupment by the railroads. "Any amount recovered from defendants as reparations," he explained, "would affect the amount of their net income for tax purposes in the year of payment, but in all probability the resulting tax saving would be far less than the taxes paid during the reparations period."

Taxes Paid on Claimed Money

Evidence submitted in the case by the railroads included calculations of the income and excess-profits taxes paid on the amount of reparations claimed with respect to 10 of the 771 carload shipments involved in the complaint. The calculations showed that the reparations claimed totaled $1,867.30, and that the income and excess profits taxes paid on that amount of revenue at the time of the shipments amounted to $1,327.49, or 71.1 per cent. The railroads, as Mr. Hosmer summarized their position, argued "that they would be equitably entitled to a set-off of this amount against any award of reparations on the 10 carloads." The examiner agreed, calling the argument "in accord with simple principles of justice."

"In the instant case," he continued, "it is impossible to see how in good conscience the government could defend its retention of taxes heretofore levied by it on revenue which it now asks to be restored to it as an aggrieved shipper, except perhaps on some punitive theory which would be unjustifiable upon the facts shown here."

The proceeding is docketed as No. 29945, and the shipments involved in the complaint moved to the tin smelter built at Texas City in 1940 by the Metal Reserve Company, which was a subsidiary of the R.F.C. The location of the plant contemplated that it would be served principally by water transportation, but "exigencies due to the war" shifted the business to rail routes out of New York, Glen Cove (Long Island), N. Y., Philadelphia, Pa., Baltimore, Md., and Norfolk, Va.

This was early in 1942, and the railroads published a commodity rate of $1.09 per 100 lb. from New York to Texas City. In the absence of this, the applicable class rate would have been $1.78 per 100 lb. The $1.09 rate was also published from Philadelphia, while $1.05 was published from Baltimore and Norfolk, and $1.12 from Glen Cove. The 771 shipments moved during the period between January 22, 1943, and December 10, 1946, and 752 of them moved from New York.

Basis of R. F. C. Contention

The $1.09 rate from New York was made up of a basic rate of $1.03, plus the Ex Parte 148 increase of 6 per cent. The latter was not removed when the Ex Parte 148 increases generally were suspended in May, 1943, by order of the commission, the carriers there relying on that provision of the suspension order which exempted rates that had been reduced "below reasonable levels as a real concession to the government."

The R.F.C.'s claims are based on a contention that the rate from New York should have been 90 cents subject to an Ex Parte 148 increase of 5 cents "in the periods when the latter was in effect." This figure, Mr. Hosmer explained, "approximates what complainant regards as the rate applicable to a shipment of tin concentrates from Texas City to New York—if such there had ever been—namely 89.3 cents." Such a rate would have been composed of the aggregate of intermediate rates to and from Cincinnati, Ohio.

In recommending that the commission dismiss the complaint, the examiner noted, among other things, that the assailed rates represented only 2.67 per cent of the value of the tin ore at destination. He went on to say that the corresponding percentage for all traffic in 1946 was 5.46 per cent; and for products of mines as a whole it was 23.13 per cent. Comparisons made by the R.F.C. with other rates "fall short of proving that the assailed rates were too high," Mr. Hosmer also found. He calculated that the average revenue per car-mile under the assailed rates was 50 cents, while the average per ton-mile was 10.2 mills.

Board Makes Report In R. E. A. Wage Case

Recommends 40-hour week and raise of 7 cents

Settlement of the Railway Express agency's 40-hour-week and wage case on the basis of the railroads' recent agreement with their non-operating employees has been recommended by the emergency board which President Truman appointed to investigate the dispute. Thus the R.E.A. employees, who are represented by the Brotherhood of Railway Clerks, would get a 40-hour week effective September 1, and a 7-cents-per-hour wage increase retroactive to October 1, 1948; and their requests for an additional wage increase, an earlier effective date for the 40-hour week in New York, more liberal paid vacation arrangements, and other rules changes would be denied.

The report was submitted to President Truman on May 6 by members of the board, who are Chairman David L. Cole of Paterson, N. J., Aaron Horvitz of New York, and Leverett Edwards of Oklahoma City. The board was created by the President on April 9, about a month after the dispute had brought "slow-downs" and "sit-down strikes" to R.E.A.'s New York terminals. The board's report referred to these maneuvers only as "a situation," adding that the outcome was that on March 8 the Express Agency "abolished all jobs in New York, declared an embargo and shut down its local operations there." This continued until April 14, when the board "succeeded after two days of mediation in persuading the parties to enter into an agreement under which work was resumed on April 18."

The 40-hour week recommended in the report would involve maintenance of the present 44-hour basis of pay, and would thus bring another increase of 10 per cent in hourly rates. Because the non-operating railroad employees now have a 48-hour week, the conversion in their case will increase their hourly rates 20 per cent in addition to the 7-cent increase. The brotherhood had urged that conversion in the case of the R.E.A. employees be accomplished by adding another hourly increase of 7½ cents (which would be in addition to the 7 cents) to the 10 per cent to compensate them "for a disparity in the increases enjoyed by the railroad employees over the express people since 1940, arising out of the fact that in the express industry the 44-hour week has been in effect since that year."

The board rejected that contention because it "clearly goes beyond" the non-operating agreement and is "contrary to the theory that when a work week is shortened prior earnings should be preserved". The report added that "recapture of amounts necessary to reestablish relative earnings positions of former years does not seem to the board to be appropriate in this proceeding."

Vacation Proposals Rejected

The demand for more liberal vacation arrangements was rejected on similar grounds, i.e., it was not considered by the board to be "in line with the main purpose of this proceeding," which is "to have the changes in working conditions of the express employees conform to those made in the railroad industry." The demand was for paid vacations of 8 working days after 1 year of service, 10 days after 2 years, and 15 days after 3 years. Present arrangements call for 1 week after a year of service and 2 weeks after 5 years.

The brotherhood's demand for an

earlier effective date for the 40-hour week in New York was based on the fact that R.E.A. vehicle employees there, who are represented by the International Brotherhood of Teamsters, have had a 40-hour week since March, 1948. All other employees in New York, as the board put it, "have been resentful because of the discrimination." It summarized R.E.A.'s position on the matter as one "contending that if an earlier effective date is used in New York the reactions and disturbances in other places will be serious, and that to discriminate in favor of New York would amount to rewarding New York employees for their breach of the agreement in March when the company alleges it was compelled to discontinue operations in New York for a period of some five weeks." Also noted was the recent agreement between R.E.A. and the teamsters' union, under which that union's members outside New York will not get the 40-hour week until September 1.

In summing up on this matter, the board called the problem presented a "perplexing one." But, "on balancing all the factors," it concluded that "it would be unwise to deviate from the pattern of the Chicago [non-operating employee] agreement and from the established national pattern always followed in the past for the sake of gaining [at New York] at most two months' advantage over all other express and railway non-operating employees."

Earlier in its report, the board had laid the basis for its adherence to the "non-op" pattern. It said that R.E.A. "is generally regarded as the express department of the railroad industry," and that the practice of treating R.E.A. employees as non-operating railway employees is "firmly entrenched." Thus the report's recommendations as to rules revisions necessary to implement the 40-hour week called for the incorporation into R.E.A.-B. of R.C. agreements of various provisions of the "non-op" agreement.

"Substantial" Cost Involved

The board conceded that the 40-hour week could not be installed by R.E.A. without "substantial" cost. "The board is aware, however," the report added, "that the agency is in financial effect a joint facility or arm of the railroad industry and that there are other branches of the industry which, standing alone, are also unprofitable." Earlier it had said that the transition "unfortunately is being made at a time when the Agency's volume of business is sharply declining and if it were not for the traditional and direct tie-up with the railroad industry some softening devices might be sought." At the same time, this declining-revenue situation was also a factor in the board's decision to reject demands going beyond the proceeding's "major purpose" to establish "the railroad type of 40-hour week in the express industry."

As for the adjustment of hours of monthly-rate R.E.A. positions in train service and over-the-road truck service, the board recommended that the work month be fixed at 170 hours, with overtime at pro-rata rates for work above 170 hours up to 190 hours and time and one-half for all hours worked above 190. Employees in these positions now have a work month of 190 hours with pro-rata overtime thereafter up to 204 hours and then time and one-half.

Another matter dealt with in the report was the rule covering so-called short-hour employees. These are hired for peak-load periods, but their number averaged only 872 for the country as a whole in 1948. The brotherhood is seeking to cancel the rule so that such employees will come under the general day's-pay guarantee rule. The board calculated that only 1.3 per cent of R.E.A.'s 1948 employees were in the short-hour group. It favored the union proposal, setting out its view as follows: "In the process of regularizing the hours of employment in the express industry it seems appropriate under all the circumstances to give favorable consideration to the request of the organization that this trifling group of employees be placed on the same basic day as that which the other 99 per cent have. It will create a burden of very little consequence to the Agency."

The Pennsylvania has announced the purchase of 10 additional rotating reservation boards from the Wassell Organization, Inc., of Westport, Conn., for installation in Pennsylvania Station, New York. The devices, known as "Wassell units" after their inventor, F. Lloyd Wassell, will be of an improved type similar to the one (above), which has been in experimental service at the station since the first of the year. Their installation, with special telephone equipment, is expected to cost about $90,000. Instant visualization of accommodations available on 54 passenger cars for 90 days ahead can be provided on each of the new nine-cylinder machines, compared with a capacity of 45 cars for 90 days on the earlier three-cylinder reservation boards. The new units occupy a floor space 8 ft. in diameter, compared with the 11½ ft. needed for the earlier units and require only 7 instead of 8 distribution clerks apiece when operating at full capacity. The 10 new sets of "Wassell units" will supplement the two now in use at Pennsylvania Station, one of these being of the new type and one of the older

"Toss Out Horse-and-Buggy Statutes," Urges Barriger

The time has come when the "archaic" Interstate Commerce Act should be revamped so that railroad freight rates can be made more flexible, and, if necessary, be reduced to attract more traffic, John W. Barriger, president of the Chicago, Indianapolis & Louisville, declared in an interview published in the Boston (Mass.) Post on April 26. The article quoted the Monon president as saying that the rail carriers could do a much better job for the people of the United States if the present cumbersome rate procedures, which are a throwback to "horse-and-buggy" days in railroading, could be "tossed out the window."

Mr. Barriger pointed out that, before the era of regulation, the roads handled anything they could get that would produce an operating profit. The railroads today should be granted similiar freedom to set up rate structures designed to "attract business and not to repel it," he added. "Too many rates in rail tariff schedules seem to be there for the purpose of making freight move by their competitors."

He told the Boston Post that "if the railroads were permitted to have flexible procedures which recognized the present

commercial 'facts of life' in merchandising transportation, there is no freight that now moves more than 150 mi. by truck that the railroads could not afford to carry and would not carry." He emphasized that no criticism of the commission, per se, was implied, but asserted that the regulatory body has no alternative but to carry out laws reflecting the thinking of the "gay nineties" when the railroads were real monopolies.

The newspaper article continued, in part: "Citing the fact that industry-owned truck lines . . . and contract carriers have been diverting a sizeable share of freight from the rail carriers, Mr. Barriger commented that 'a law originally made to protect the public now principally serves to protect railway competitors against railway competition. The I. C. C. Act has become an umbrella to shield competing transportation agencies and give them a field day.'"

When asked whether he thought a revamping of the transportation law would have the effect of cutting railroad freight rates, the Monon chief replied: "The end-product of the combination of the factors I have discussed keeps traffic off the American railroads. This increases were not hampered in their ability to their unit cost of doing business. If they compete with trucks and waterways for traffic, the railroads would obtain a much larger volume of business. This would enable them to operate more efficiently. Improved earning power would then be obtainable with lower rate levels than are possible under present conditions."

Manchester, N. H., Stages Historic Locomotive Exhibit

Locomotive-building in Manchester is the subject of a current exhibit at the Manchester, N. H., Historic Association. Early lithographs, photographs, designers' original drawings, and other railroad material illustrate the story of Manchester's two concerns that made locomotives for more than 50 years and produced over 2,000 for railroads all over America in the 19th century.

The exhibit, open free every afternoon except Monday, will continue through September.

B. & O. Introduces New "Columbian"

The Baltimore & Ohio on May 5 introduced its new "Columbian," as the "first strata-dome train built for any eastern railroad." Scheduled for daily operation in each direction between Washington, D. C., and Chicago, trains bearing the "Columbian" name were christened on the 5th in those two cities.

Miss Drucie Snyder, daughter of John W. Snyder, secretary of the treasury, was sponsor for the Washington train at Union Station, while Miss Barbara Cunningham, daughter of James D. Cunningham, B.&O. director, was sponsor of the Chicago train at Grand Central Station in that City. At both ceremonies a bottle of water from the Potomac river and Lake Michigan was broken over the rear end of the train.

The Baltimore & Ohio's new "Columbians" will begin service at regular coach fares between Washington and Chicago on May 15

The "Columbian's" strata-domes, available to all passengers at no extra charge, are equipped with a speedometer, an altimeter, a barometer and a clock

The Washington ceremonies also included the release of several hundred pigeons, lent by racing pigeon fanciers at 12 points along the route of the train. The pigeons carried messages from B.&O. President R. B. White to the mayors of their respective communities. The messages advised each mayor that one of the cars on the new train had been named after his city.

President White presided at the Washington ceremonies, and noted in a brief address that the original "Columbian," in 1931, was the "first air-conditioned train in the world." In planning for the new "Columbian," Mr. White continued, he and his associates "have had very much in mind such pioneering achievements of the Baltimore & Ohio in passenger service." The B.&O.'s vice-president and executive representative in Chicago, G. Murray Campbell, presided at the ceremonies in that city.

Each of the new trains consists of 8 cars and a two-unit Diesel-electric locomotive. The cars were built by the Pullman-Standard Car Manufacturing Company; and the locomotives, purchased several months ago, were built by the Electro-Motive Division of the General Motors Corporation. Exclusive of the locomotives, each train represents an investment of $1,000,000, the B.&O. said.

The 8 cars of each train include the strata-dome car with a 24-seat observation section; an observation-lounge car with a cocktail bar; a diner with diagonal seating arrangements; a coffee shop-lounge car with tables and a snack bar, and 4 coaches fitted with "Sleepy Hollow" reclining seats. Apart from the strata-dome and interior color scheme, the train has many other new features. It is equipped with an electrical robot which automatically controls the pressure of the air brakes, thus insuring a smooth stop, once the engineer sets the control. It is also equipped with roller bearings, shock absorbers, and tight-lock couplers, and has fluorescent illumination throughout. All cars are air-conditioned, and each is equipped for radio reception.

The radio system is linked with a public address hook-up to permit announcements from the conductor's desk, the dining car steward's desk or from the room of the stewardess-nurse in the observation-lounge. In addition, the

speakers can be used to relay music from wire recordings. There is an intercommunication system for the train crew, consisting of dial telephone stations in the locomotive cab, the baggage room, the conductor's desk, and the observation car.

The train's westbound schedule calls for departure from Washington at 4:40 p.m., Eastern Standard Time, and arrival at Chicago at 7:20 a.m., Central Standard Time, the following morning. The daily departure from Chicago is at 3:50 p.m., Central Time, and the arrival in Washington at 8:25 a.m., Eastern Time, the following morning.

Long Island Suspends Improvement Program

Since assumption of control of the Long Island by trustees appointed by the federal court the road has been able to earn only enough to meet its payroll, amounting to about $2,000,000 monthly; pay current bills for material and supplies, and remit to connecting lines their proportion of the freight charges collected by the Long Island for shipments moving over more than one line, it was disclosed in a statement by David E. Smucker and Hunter L. Delatour, trustees. Payment of interest on indebtedness and payment of real estate taxes, both extremely heavy items of expense, have had to be deferred, the statement said, adding that "In order to continue operations at the former level and to meet payroll and material bills, it has been necessary to suspend almost all of the $18,509,000 improvement program which was begun in the fall of 1947."

"Up to March 2, 1949, when the decision of the Pennsylvania to discontinue subsidizing its ever-mounting deficits left the Long Island no alternative but bankruptcy," the statement continued, "74.6 per cent of the work contemplated in the improvement program had been accomplished at a total expenditure of $13,166,564. . . The trustees are not contemplating any drastic curtailments in passenger service for the present and, as a matter of fact, are planning to establish a few additional trains in territory where very rapid residential development has resulted in a necessity for this. . . . They may later be forced to reduce train service on certain lines, but this will not be done unless its necessity is definitely indicated."

Freight Car Loadings

Loadings of revenue freight in the week ended May 7 totaled 768,337 cars, the Association of American Railroads announced on May 12. This was a decrease of 17,107 cars, or 2.2 per cent, under the preceding week, a decline of 111,950 cars, or 12.7 per cent, under the corresponding week last year, and a drop of 115,905 cars, or 13.1 per cent, under the equivalent 1947 week.

Loadings of revenue freight for the week ended April 30 totaled 785,444 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., follows:

Revenue Freight Car Loadings
For the week ended Saturday, April 30

District	1949	1948	1947
Eastern	143,947	160,888	165,099
Allegheny	170,921	183,375	189,345
Pocahontas	66,005	77,766	72,709
Southern	118,422	145,000	137,144
Northwestern	119,198	129,881	127,154
Central Western	111,376	125,215	127,026
Southwestern	55,575	68,990	64,097
Total Western Districts	286,149	324,086	318,277
Total All Roads	785,444	891,115	882,574
Commodities:			
Grain and grain products	45,010	38,723	43,951
Livestock	10,963	14,748	15,479
Coal	161,166	204,454	178,672
Coke	14,354	13,403	14,650
Forest products	38,291	44,726	47,267
Ore	71,621	79,037	65,884
Merchandise l.c.l.	93,681	111,454	124,149
Miscellaneous	350,358	384,570	392,522
April 30	785,444	891,115	882,574
April 23	769,336	851,926	893,712
April 16	765,890	784,611	865,844
April 9	757,784	682,934	757,839
April 2	725,623	660,631	715,159
Cumulative total 17 weeks	12,033,718	13,036,198	13,945,433

In Canada.—Carloadings for the week ended April 30 totaled 74,119 cars, as compared with 73,840 cars for the previous week, and 74,354 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
April 30, 1949	74,119	31,615
May 1, 1948	74,354	34,655
Cumulative totals for Canada:		
April 30, 1949	1,228,928	540,972
May 1, 1948	1,251,412	616,900

Trainmen Join Fight Against Government Reparation Claims

The Brotherhood of Railroad Trainmen has made unanimous the opposition of railroad labor organizations to the federal government's claims for reparations on its shipments of various commodities during World War II. On May 5, that union filed with the Interstate Commerce Commission a petition for leave to intervene in the 17 pending proceedings which embrace the government's complaints. Like petitions had previously been filed by the Brotherhood of Locomotive Engineers and the Railway Labor Executives' Association.

The B. of R. T. petition said that an award of the "substantial reparations" sought by the government would "seriously disturb the economy of the nation and of the railroads." It added that such an award would "consume railroad funds that could otherwise be used for the employment of labor, the general improvement of working conditions, the purchase of materials and supplies, the installation of safety devices, the improvement of roadbed, track and equipment, and the furtherance of the general welfare of the railroad industry and the men who work for it."

"The railroads," the petition also said, "always try to recoup financial losses by reduction of forces and increases in rates. Neither one would solve the predicament that would result from large reparation awards. Increases in rates would drive business to competing forms of transportation, and reduction of forces would contribute to the economic chaos, resulting in a serious decline in railroad revenue."

Belt Conveyor Plan Defeated In Ohio Legislature

Further legislative consideration of Ohio house bill No. 628, which would have accorded public utility status, including the right of eminent domain, to the proposed coal and ore belt conveyor from Lorain, Ohio, to a point on the Ohio river near East Liverpool, was indefinitely postponed on May 3 by the house committee on commerce and transportation. The action, taken by a committee vote of 12 to 4, virtually kills the bill, at least for this session, although a similar bill, senate No. 150, was still pending before the judiciary committee of the Ohio senate as this issue of *Railway Age* went to press.

The conveyor plan, sponsored by H. B. Stewart, Jr., president of the Akron, Canton & Youngstown, was fully described in *Railway Age* of February 12, page 42. It has been opposed by other railroads and by railroad brotherhoods.

Emergency Board Reports On Southern Pacific Case

The White House on May 7 made public the report of an emergency board which President Truman created on March 30 to investigate a dispute between the Southern Pacific and its Pacific Lines firemen who are represented by the Brotherhood of Locomotive Firemen & Enginemen. The creation of the board brought postponement of a strike which the brotherhood had called for April 2.

The dispute involved 89 issues, most of them grievance cases within the jurisdiction of the National Railroad Adjustment Board; and the parties agreed during the hearing to submit 75 of the issues to that board. Thus only 14 were left for consideration by the emergency board. They involved such matters as requirements to be met by firemen before their promotion to engineers; compensation for student firemen; expenses for firemen called for service away from their regular division; pass arrangements for enginemen; pay of "firemen" on Diesel-electric locomotives in yard service; a demand for the assignment of a "fireman" to yard Diesels weighing 90,000 lb. or less; a request for alterations on some steam locomotives to provide more room in their cabs; and claims of individual firemen.

The board recommended that three of the latter be allowed; and it recommended that the request for the locomo-

tive alterations be left open, noting that the S.P. had said it would make the alterations or retire the locomotives involved. If it does not do so, the board said the brotherhood would be free to renew its request for a definite agreement on the matter. As to the other 10 issues, the board recommended that the brotherhood proposals be not adopted.

Members of the board were Chairman Harry H. Schwartz, who was formerly a member of the National Mediation Board; Robert O. Boyd of Portland, Ore., and Daniel T. Valdes of Santa Fe, N.M.

No Engineers' Strike—Yet

Because "further negotiations" in the dispute over demands for a second engineman on multiple-unit Diesel-electric locomotives are still "entirely possible," in the opinion of James P. Shields, spokesman for the Brotherhood of Locomotive Engineers, there will be no immediate strike against the 15 Western railroads on which strike votes have already been taken by that organization.

As reported in last week's *Railway Age*, the brotherhood has rejected the report of the Presidential emergency board which turned down the union's demands for a second man, and could legally call a strike on or after May 11. Mr. Shields did not explain the reasons for delaying the walkout, but was quoted as saying that "When we decide to strike, we will give ample notice for our own men and for the carriers."

Two Reports Issued by A.A.R. Accounting Committee

E. H. Bunnell, vice-president of the Association of American Railroads, has sent to chief accounting officers of A.A.R. member roads two reports recently completed by the Accounting Division's special committee on research. The reports are entitled "Railroad Budgetary Procedures," and "Procedures Recommended for Use by Railroad Stationery, Forms and Records Committees."

U. S. Chamber Would Legalize Delivered-Price Selling

Enactment of legislation to legalize selling on a delivered-price basis was recommended in one of the "policy declarations" adopted by the Chamber of Commerce of the United States at its annual meeting in Washington, D. C., last week. Another declaration on social security called for inclusion of railroad employees under the general social security program.

All except one of the transportation declarations recommended by its Transportation and Communication Department Committee (see *Railway Age* of April 16, page 74) were also adopted by the chamber. The exception was the proposed declaration calling for repeal of the taxes on amounts paid for transportation services. The chamber's pronouncement on this matter was embodied in a general declaration on excise taxes.

"Excise taxes equitably devised and non-discriminatory as between competing industries," the declaration said, "should continue to be an important feature of the revenue system. Such taxes at low rates upon articles of wide use, but not of first necessity, are needed to supplement income taxes. The war increases in excises and all levies of a nuisance type should be repealed. Removal of the war increases of excises applicable to the essential services rendered by publicly regulated agencies is of immediate importance."

The declaration on delivered pricing practices referred to the United States Supreme Court's recent decision affirming a Circuit Court of Appeals ruling which upheld a Federal Trade Commission order outlawing use of basing-point plans by manufacturers of rigid steel conduit (see *Railway Age* of April 30, page 53). The legislation which the chamber has in mind should, as the declaration put it, "assure sellers that in the absence of conspiracy, combination or illegal agreement to fix prices, they may sell at delivered prices and compete with other sellers located closer to prospective customers by equalizing transportation costs or by absorbing part or all of such transportation costs, in order to have a competitive price."

The declaration calling for abandonment of the railroad social security system had this to say: "To the utmost feasible extent social security programs should be uniform and non-discriminatory. . . . Existing federal legislation providing the special discriminatory . . . system for railroad employees should be repealed, with suitable transitional provisions; and railroad employees should then be included within the coverage of appropriate general social security programs."

March Truck Traffic

Motor carriers reporting to American Trucking Associations transported in March a total of 3,312,515 tons of freight, an increase of 12.1 per cent above the previous month's total of 2,954,041 tons and 0.9 per cent above the 3,284,271 tons hauled in March, 1948. The figures, according to A.T.A., are based on comparable reports from 317 carriers in 43 states.

Government Reparation Claims Opposed by Security Owners

The Railroad Security Owners Association has asked the Interstate Commerce Commission for leave to intervene in the 17 pending proceedings wherein the federal government is seeking large reparation awards on the basis of allegations that it was overcharged by the railroads on its shipments of various commodities during World War II. The association's petition put it on record in opposition to the government's claims.

It estimated that allowance of the claims would cost the railroads "in excess of $2 billion," and argued, with supporting figures, that if the carriers were required to pay any such amount, or a substantial part of it, "their credit would be seriously impaired and the possibility of their being able to obtain funds at reasonable rates for necessary improvements would be rendered more difficult if not impossible." The supporting figures, taken from the commission's latest annual report, showed that as of July 31, 1948, the cash and temporary cash investments of Class I roads totaled $1,878 million, while their net working capital, excluding materials and supplies, totaled only $795 million.

This current condition prevailed "only because of conservative dividend policies," the petition continued, adding that the working-capital position of Class I roads as a whole has been "deteriorating" since the foregoing figures were compiled. The association also raised a question as to the equity of requiring the railroads to pay reparations on the basis of wartime revenues which were subjected to heavy income and excess-profits taxes.

"The government," the petition said in that connection, "cannot equitably be permitted to recover from the railroads twice, once through income and excess profits taxes and a second time by a return of revenue that produced the earnings on which such taxes were collected. Consequently, under any circumstances, consideration must be given to the income and excess profits taxes heretofore paid on the amounts sought by the government as reparations."

In arguing that it should be allowed to intervene, the association told the commission that its members, which include life insurance companies and mutual savings banks, hold approximately $2 billion in railroad securities. "As creditors of the railroads," these members have an interest "in the financial stability of the carriers," the petition added.

Grant More Time in Lincoln Suit

The western railroads and other defendants in the government's anti-trust suit being heard at Lincoln, Neb., have been granted a further extension of time within which to file supplemental pleadings and to specify additional grounds for objection to testimony heretofore offered by the Department of Justice. The district court gave an extension of 45 days after the entry of final orders by the Interstate Commerce Commission in Section 5a, Application No. 2, Western Traffic Association, and Section 5a, Application No. 7, filed by the carriers in regard to per diem, mileage and demurrage, and storage agreement, or until further order of the court.

Additional General News appears on pages 83, 84 and 85

SUPPLY TRADE

Allen R. Binckes, a mechanical engineer with some 14 years of experience in engineering and sales work with the **Whiting Corporation,** Harvey, Ill., has been appointed district sales manager for the firm's Pacific Coast area, with headquarters at 5649 Alhambra avenue, Los Angeles, Cal. Appointed to assist Mr. Binckes is **Harold Overman,** who has served with the company for 10 years in various capacities.

The **American Brake Shoe Company** has appointed **James R. Shepard** as Western district works manager of the brake shoe & castings division, with headquarters at Chicago, and **Thomas J. Wood** as Eastern

James R. Shepard

district works manager, with headquarters at New York. The appointment of **Eads Johnson, Jr.,** as assistant vice-president of the Southern wheel division, at New York, also was announced.

Thomas J. Wood

Mr. Shepard attended Yale University and joined Brake Shoe in 1937 as an apprentice. He was Eastern district works manager at New York at the time of his recent appointment. Mr. Wood was graduated from Lehigh University and joined the company in 1939. Before his recent appointment he was superintendent of the division's Mahwah (N. J.) plant.

Eads Johnson, Jr.

Mr. Johnson joined Brake Shoe after he graduated from college in 1934. He was sales representative of the brake shoe & castings division at the time of his recent appointment.

Perry L. Francis, formerly general manager of sales of the **Alan Wood Steel Company,** has been elected vice-president in charge of sales. Mr. Francis joined the Alan Wood sales organization in 1924

Perry L. Francis

and has served the company in San Francisco, Cal., Los Angeles, and Seattle, Wash. On February 5, 1947, he was appointed general manager of sales at the company's home office in Conshohocken, Pa.

John D. Riley, district sales engineer at the Boston (Mass.) office of the **Link-Belt Company,** has been appointed district manager at Newark, N. J., succeeding the late **George E. Ramsden.**

Iron & Steel Products, Inc., Chicago, has moved its New York office from 120 Liberty street to 50 Church street.

The **Vapor Heating Corporation** has announced the appointments of **L. A. Richardson** and **J. E. Morris** as district managers in charge of sales and service to railroads, with headquarters, respectively, at Washington, D. C., and St. Paul, Minn.

John Burkhardt has been appointed traffic manager of the Hewitt Restfoam division of **Hewitt-Robins, Inc.,** Buffalo, N. Y. Mr. Burkhardt also will continue in the same capacity in the Hewitt rubber division.

The **Capehart-Farnsworth Corporation,** newly formed and wholly owned subsidiary of the **International Telephone & Telegraph Corporation,** has announced the election of **Ellery W. Stone** as president and **David R. Hull** as executive vice-president.

Frank C. Neal, Jr., who has been associated with the **General Electric Company** since 1936, has been appointed manager of the distributor sales division of the company's welding divisions. Mr. Neal will make his new headquarters at Fitchburg, Mass., and will be succeeded as manager of the Houston, Tex., welding division by **Preston D. Morgan.**

Carl M. Marberg, for the past two years coordinator of research planning for the Standard Oil Company of Indiana, has joined the research staff of the **Gustin-Bacon Manufacturing Company,** Kansas City, Mo.

Goff Smith has been appointed sales engineer for the **American Steel Foundries,** at New York. He joined the company in 1946, after six years in the Army Ordnance Corps.

George M. Woods has been appointed manager of the transportation section, industry engineering department, of the **Westinghouse Electric Corporation** to succeed **H. E. Dralle,** who has been transferred to the engineering and service department. Mr. Woods has been associated with the corporation since 1911.

The **Maumee Malleable Castings Company,** Toledo, Ohio, has announced the following changes in management: **E. H. Doering,** general manager since 1945, has been appointed executive vice-president and will devote most of his time to coordinating sales of Maumee Malleable and the American Boiler & Foundry Co., a subsidiary in Milan, Mich.; **N. P. Mahoney,** formerly superintendent, has been promoted to plant manager; **R. E. Bossert,** in charge of the plant's pattern department since 1935, has been appointed sales manager; and **H. M. Breese** has been appointed secretary in addition to being treasurer and purchasing agent.

The **Universal Carloading & Distributing Co.** has moved its executive offices to 345 Hudson street, New York.

Thomas J. Little, eastern sales manager of the **Pyle-National Company,** New York, has been elected vice-president in charge of the Eastern division at New York,

succeeding **A. N. Martin,** whose retirement was reported in the *Railway Age* of April 2. Mr. Little spent the first five year of his business career with the Anaconda Copper Mining Company and the next four years in the study of electrical engineering at Union College, and the

Thomas J. Little

General Electric engineering test departments at Schenectady, N. Y., and Pittsfield, Mass., where he specialized in railway electrification and high-voltage work. After completion of this training he returned to Anaconda and worked for five years as electrical engineer and electrical superintendent of the firm's Anaconda (Mont.) and Butte properties. In 1925 he became a member of the sales organization of the Anaconda Wire & Cable Co., New York, and subsequently served as sales engineer, manager of transmission sales and executive assistant. In February, 1948, he was appointed eastern sales manager of Pyle-National.

A. M. Wiggins, whose election as vice-president of the **Westinghouse Air Brake Company** was announced in the *Railway Age* of May 7, page 65, was graduated

A. M. Wiggins

from Purdue University in electrical engineering and attended the Cleveland Law School. Mr. Wiggins joined Westinghouse Air Brake in 1933 as a patent attorney and, in 1938, was placed in charge of the legal department. In April, 1945, he was elected an assistant vice-president in charge of patent and legal matters and one year later he was appointed executive assistant to the president, the position he held at the time of his recent election.

At a board of directors meeting on May 2, **William H. White** was elected vice-president of the **Morris B. Brewster Company,** and the **T-Z Railway Equipment Company,** Chicago, with headquarters remaining at Roanoke, Va. Mr. White has been associated with the two firms continuously since 1934, engaged in the redesigning of sander equipment and in the servicing of all equipment. He was born at Salem, Va., on May 10, 1879, and began his career as a helper in the Norfolk & Western's shops in Bluefield, W. Va., in 1902. In the following year he was transferred to the road's shops in West Roanoke, Va. He became pipe fitter mechanic in 1906, organized the Graham-White Sander Corporation in 1914,

William H. White

and returned to the West Roanoke shops in 1918. He was subsequently advanced to inspector of new locomotives and, during World War I, was employed in the inspection and test section of the United States Railroad Administration. Mr. White later returned to the N. & W.'s West Roanoke shops, and in 1924 was reemployed by the Graham-White Sander Corporation. He remained with the latter firm until he became associated with the Morris B. Brewster and T-Z Railway Equipment Companies in 1934.

John W. Humphrey, formerly executive vice-president of the **Philip Carey Manufacturing Company,** Cincinnati, Ohio, has been elected president to succeed **Robert S. King,** elected chairman of the board at the recent board of directors' annual organization meeting. Mr. King in turn succeeds **George A. Rentschler,** who will continue as chairman of the executive committee. The election of **L. W. Clarke,** formerly general sales manager, as vice-president in charge of sales to succeed **E. W. Smith,** resigned, also was announced.

The **Timken Roller Bearing Company** has announced the appointment of **Homer L. Hexamer** as district manager of the railway division at St. Louis, Mo. Mr. Hexa-

Homer L. Hexamer

mer was graduated from Purdue University and joined Timken in 1928 as a draftsman for the railway division. From 1933 to 1936 he was a railway service engineer and from 1936 to 1946 he worked in the railway sales department at Canton, Ohio. In the latter year he was appointed sales engineer for the railway division at St. Louis, the position he held at the time of his recent appointment.

Max K. Ruppert, president of the P. & M. Co., Chicago, whose election also as vice-president of **Poor & Co.,** Chicago, was reported in the *Railway Age* of April 30, was born at Grand Rapids, Mich., on June 5, 1899. He was graduated from the New Mexico Military Institute at Roswell, N. M., and, before joining the P. & M. Co., served on

Max K. Ruppert

the Chicago, Rock Island & Pacific as chainman, rodman, ballast inspector and rail inspector. In 1924 he was appointed foundry inspector for the P. & M Co.,

and later held the positions, successively, of service engineer, salesman, assistant eastern manager and vice-president. Mr. Ruppert was elected president in 1943.

OBITUARY

Frank B. Bell, founder and chairman of the board of the Edgewater Steel Company, died on May 6, after an illness of several weeks. Mr. Bell was born in Mercer, Pa., on September 24, 1876, and attended the public schools there. He obtained a degree in mechanical engineering from Lehigh University in 1897 and received a doctor of engineering degree from that university in 1944. Mr. Bell was appointed assistant open hearth superintendent for the Clairton Steel Company after several years' experience in the steel industry with various Pittsburgh, Pa., firms. In 1905 he was appointed assistant superintendent of the Latrobe Steel & Coupler Co., Melrose Park, Ill. He left that company in 1908 to build the Inter Ocean Steel Company plant at Chicago Heights, Ill., which later became part of the Railway Steel Spring Company, now a subsidiary of the American Locomotive Company. In 1916, Mr. Bell returned to Pittsburgh and organized the Edgewater Steel Company, to produce railroad wheels, tires, and rings with a mill he designed that utilized a new rolling principle. He also had been chief of the Pittsburgh district of the Army Ordnance Association since 1930.

Frank B. Bell

FINANCIAL

White Sees Real Threat Of Government Ownership

"Government ownership of railroads will occur in less than 10 years" unless there is a change in the public attitude toward transportation problems, William White, president of the Delaware, Lackawanna & Western, told stockholders of that road at their annual meeting in New York on May 10.

"All railroads," Mr. White said, "are at a competitive disadvantage, owing to subsidized transportation services. Unless such subsidies are corrected, the process of slow strangulation of the railroads, which has existed for 25 years, will continue, and nationalization might come, due to inertia upon the part of the public. . . . That will be only the beginning of widespread government ownership of industry." So far as truck subsidies are concerned, Mr. White expressed the view that the situation will have to be corrected by the state legislatures.

Mr. White also said he deplored the fact that the railroad industry had not been allowed by regulatory authorities to earn more during the prosperous war and postwar years, and thought an 8 per cent return would not have been excessive, in view of "50-cent dollars" and prevailing high wages and prices.

L. V. Security Holders Assent to Reorganization

Holders of more than the required 75 per cent of each class of securities affected by the proposed reorganization of the Lehigh Valley under the so-called Mahaffie Act have assented to the readjustment plan, according to an announcement made at New York on May 10 by C. A. Major, president of the company. The Lehigh Valley thus becomes the first major carrier to utilize the provisions of the 1948 law (Section 20b of the Interstate Commerce Act) under which railroads may modify their bond structures according to plans which meet the approval of the Interstate Commerce Commission and holders of three-quarters of each issue involved.

"We are particularly gratified," Mr. Major's statement said, "that our plan has been so well received that in the short space of 12 weeks the holders of seven different bond issues and of the common stock, representing in all $190 million in face amount of security values, have signified approval by the requisite percentage.

"This response means that the Lehigh Valley is in position to meet satisfactorily the serious financial problems presented by the approaching maturity of $35 million of senior debt. In view of the two sinking funds provided by the plan and the fact that $2,300,000 of fixed charges will be converted into contingent charges, we are hopeful that our securities will enjoy a higher credit standing."

The reorganization plan, which was outlined in detail in the *Railway Age* of February 19, page 61, was approved by the I. C. C. in that month. The official mailing of the proposed plan to the security holders, pursuant to authorization by the commission, took place on February 16. Supplemental mortgage indentures necessary to put the plan into effect are expected to be ready next week.

Erie.—*Control of Leased Lines.*—This road has withdrawn its application to the Interstate Commerce Commission for authority to acquire, through stock ownership, control of the Goshen & Deckertown and the Montgomery & Erie, both of which it now operates under lease (see *Railway Age* of March 5, page 70).

Gulf, Mobile & Ohio—*Acquisition of K. C., St. L. & C.*—Division 4 of the Interstate Commerce Commission has authorized this road to purchase the properties of its subsidiary, the Kansas City, St. Louis & Chicago, and to assume direct liability for the latter's guaranteed, 4½ per cent, rst-mortgage bonds, which are outstanding in the amount of $2,083,800. The Kansas City was part of the former Alton which operated it under a perpetual lease. It thus came under control of the Gulf when the latter acquired the Alton and assumed the lease. The transactions now approved by the commission contemplate that the Gulf will cancel the debts now due it from the Kansas City; terminate the lease; and surrender for cancellation the Kansas City's capital stock, all of which is held by the Gulf. The Kansas City company will then be dissolved with resultant annual savings of about $30,000, including $25,000 in taxes and $5,000 in corporate expenses. Also, the new setup is expected to facilitate the financing of capital improvements. The bonds for which the Gulf will assume direct liability (it is now the guarantor) are dated May 31, 1947, and mature May 31, 2022. Their indenture includes sinking-fund provisions.

In acting favorably on the Gulf applications, Division 4 followed recommendtions of the proposed report made in the proceeding (Finance Docket No. 16325) by Examiners Jerome K. Lyle and F. E. Grutzik. Thus, like the examiners, it was unmoved by the plea of interveners who contended that favorable action would be adverse to interests they represent—an estate owning $348,000 of the Kansas City bonds which were received in exchange for K. C. preferred stock on consummation of the Alton reorganization (see *Railway Age* of April 2, page 58).

New York, Chicago & St. Louis.—*New Director.*—James H. Coolidge, vice-president and treasurer of Thompson Products, Inc., and a director of the Wheeling & Lake Erie, has been elected to the Nickel Plate's board of directors to succeed the late Edward J. Fleming.

New Securities

Applications have been filed with the Interstate Commerce Commission by:

Missouri-Kansas-Texas.—To assume liability for $2,550,000 of equipment trust certificates to finance in part the acquisition from General Motors Corporation,

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1949

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total				1949	1948
Colorado & Wyoming	March	41	151,029	.....	242,784	9,614	26,064	901	97,811	143,119	58.9	99,665	49,217	51,941	58,351
	3 mos.	41	427,450	.....	703,883	35,290	73,165	2,520	275,955	411,289	58.4	292,594	147,864	146,544	159,042
Columbus & Greenville	March	168	170,689	Dr. 8	177,153	38,249	25,679	4,681	46,755	731,833	74.4	45,320	26,536	21,269	26,771
	3 mos.	168	470,069	6	489,247	107,354	80,820	13,532	134,982	386,428	79.0	102,819	59,029	52,404	56,865
Delaware & Hudson	March	794	3,915,123	157,680	4,181,073	510,220	917,774	66,865	1,740,279	3,405,264	81.4	775,899	395,143	346,838	573,917
	3 mos.	794	11,829,542	551,862	12,696,882	1,644,785	2,943,756	209,038	5,368,575	10,693,430	84.2	2,003,452	1,096,785	860,769	1,432,708
Delaware, Lackawanna & Western	March	969	5,581,242	784,218	6,858,855	915,719	1,330,612	152,549	3,205,167	5,841,201	85.2	1,017,654	585,274	421,714	658,288
	3 mos.	969	16,101,125	2,470,445	20,103,343	2,513,660	3,780,944	456,646	9,387,128	16,843,332	83.8	3,260,011	1,786,348	1,403,470	1,606,875
Denver & Rio Grande Western	March	2,443	5,653,114	194,690	6,042,791	674,493	1,149,100	161,982	2,058,487	4,324,027	71.6	1,718,764	752,147	919,227	705,181
	3 mos.	2,443	15,662,576	729,658	17,252,972	1,843,045	3,190,867	455,816	6,447,185	12,754,207	73.9	4,498,765	1,984,749	2,383,257	2,835,836
Detroit & Mackinac	March	232	141,352	914	151,551	31,500	27,978	2,007	39,724	111,309	73.4	40,242	16,641	24,411	14,294
	3 mos.	232	397,208	2,477	431,895	94,500	74,353	5,504	103,083	300,940	69.7	130,955	53,990	81,327	130,175
Detroit & Toledo Shore Line	March	50	588,831	.....	591,591	43,232	49,494	14,585	165,403	287,822	48.7	303,769	96,650	111,829	93,412
	3 mos.	50	1,787,564	.....	1,796,314	116,914	136,838	39,890	518,233	849,119	47.3	947,195	305,482	364,988	323,098
Detroit, Toledo & Ironton	March	464	1,423,547	597	1,469,276	177,958	258,436	27,001	358,798	863,265	58.8	606,011	244,892	309,506	295,276
	3 mos.	464	4,569,509	1,702	4,697,803	475,871	679,298	74,520	1,083,366	2,425,121	51.6	2,272,682	897,260	1,207,605	965,331
Duluth, Missabe & Iron Range	March	575	806,025	1,521	910,483	587,314	523,149	7,954	634,505	1,811,058	198.9	—900,575	114,773	—1,032,571	—1,262,960
	3 mos.	575	1,243,274	5,214	1,425,490	1,851,230	1,464,023	23,798	1,557,928	5,083,608	356.6	—3,658,118	257,964	—3,978,639	—3,677,529
Duluth, Winnipeg & Pacific	March	175	314,000	1,100	317,300	66,676	55,461	4,176	150,247	282,619	89.1	34,661	25,448	—34,023	78,798
	3 mos.	175	898,000	3,400	912,000	171,238	149,503	12,589	438,561	789,834	86.6	122,157	73,731	—54,887	145,830
Elgin, Joliet & Eastern	March	238	3,472,025	2	4,217,887	267,670	574,326	28,779	1,415,054	2,392,318	56.7	1,825,569	693,282	774,295	506,313
	3 mos.	238	10,226,802	9	12,182,735	706,608	1,768,816	84,268	4,200,059	7,089,094	58.2	5,093,641	1,908,666	2,164,712	1,353,007
Erie	March	2,229	11,492,858	586,204	12,854,983	1,432,086	2,467,576	327,643	5,376,523	10,296,481	80.1	2,558,502	1,224,381	1,080,043	1,762,888
	3 mos.	2,229	33,752,067	1,794,738	37,790,361	4,191,287	7,103,648	943,358	16,202,241	30,329,295	80.3	7,461,066	3,483,814	3,061,469	4,011,538
Florida East Coast	March	575	2,294,218	826,268	3,411,000	372,782	445,669	67,489	1,171,395	2,262,517	66.3	1,148,483	478,405	535,000	567,896
	3 mos.	575	5,732,144	2,718,828	9,251,371	1,110,557	1,292,012	198,776	3,273,725	6,503,208	70.3	2,748,163	897,534	1,466,751	1,529,560
Georgia Railroad	March	326	666,131	32,500	745,043	97,754	103,063	30,498	348,117	609,030	81.7	136,013	33,458	124,576	139,379
	3 mos.	326	1,864,493	102,107	2,091,425	305,405	303,916	89,596	1,016,378	1,807,300	86.4	284,125	104,400	232,376	222,883
Georgia & Florida	March	408	252,135	51	255,200	78,077	33,167	15,422	107,582	246,180	96.5	9,020	16,584	—25,783	—18,704
	3 mos.	408	698,301	903	709,317	253,479	104,794	46,448	310,056	750,123	105.8	—40,806	48,713	—140,195	—40,557
Grand Trunk Western	March	971	3,467,000	167,000	3,923,000	596,390	649,697	63,689	1,800,223	3,271,764	83.4	651,236	245,356	394,294	234,418
	3 mos.	971	10,115,000	526,000	11,453,000	1,721,660	2,131,094	187,443	5,360,139	9,861,021	86.1	1,591,979	727,962	654,345	198,163
Canadian Natl. Lines in New Engl.	March	172	160,000	5,500	189,000	67,336	52,738	2,948	132,252	269,492	142.6	—80,492	22,576	—138,384	—91,682
	3 mos.	172	479,000	20,000	547,000	165,182	181,277	8,629	378,719	767,242	140.3	—220,242	67,728	—384,992	—316,853
Great Northern	March	8,318	14,307,876	761,438	16,173,192	2,716,927	3,333,700	388,379	6,372,932	13,435,859	83.1	2,737,333	1,419,540	996,681	214,954
	3 mos.	8,318	35,850,916	2,446,567	41,471,049	8,212,903	9,379,162	1,028,322	19,256,094	39,701,542	95.7	1,769,507	3,955,934	—3,188,884	406,867
Green Bay & Western	March	224	286,730	5	295,607	63,895	38,184	18,438	94,549	228,852	77.4	66,755	30,145	21,639	49,221
	3 mos.	224	834,333	46	863,549	170,891	105,476	55,330	291,983	662,883	76.8	200,666	97,916	57,673	101,797
Gulf, Mobile & Ohio	March	2,901	5,443,722	392,804	6,266,620	1,070,414	1,131,119	237,977	2,119,725	4,882,020	77.9	1,384,600	587,454	570,200	559,036
	3 mos.	2,901	15,949,593	1,358,682	18,599,974	3,188,029	3,268,859	705,813	6,257,232	14,360,521	77.2	4,239,453	1,724,524	1,673,845	1,565,007
Illinois Central	March	6,552	17,977,725	1,895,881	21,973,163	3,398,600	3,727,619	434,604	8,131,400	16,657,183	75.8	5,315,980	2,688,040	2,394,431	1,859,382
	3 mos.	6,552	51,261,609	5,954,036	63,422,460	9,714,004	11,113,365	1,338,893	24,190,360	49,183,081	77.5	14,239,379	7,366,794	6,182,055	5,447,763
Illinois Terminal	March	474	795,911	111,821	992,512	168,276	118,728	40,491	398,549	773,032	77.89	219,480	113,514	107,278	166,603
	3 mos.	474	2,348,592	334,313	2,946,330	446,435	399,493	112,254	1,190,747	2,283,275	77.50	663,055	334,537	324,058	409,170
Kansas City Southern	March	891	3,144,770	78,097	3,490,344	278,325	391,940	106,521	973,981	1,903,868	54.6	1,586,476	575,000	810,102	793,965
	3 mos.	891	9,141,881	253,163	10,104,312	861,768	1,152,328	291,145	2,838,469	5,541,441	54.8	4,562,871	1,625,000	2,401,823	2,234,213
Kansas, Oklahoma & Gulf	March	328	489,447	706	493,729	63,553	39,742	17,289	123,356	269,814	54.6	223,915	98,295	94,600	67,239
	3 mos.	328	1,459,862	2,295	1,473,869	151,485	122,883	53,283	394,374	779,434	52.9	694,435	299,467	289,410	237,025
Lake Superior & Ishpeming	March	156	110,946	49	126,240	34,425	54,818	1,820	58,032	158,081	125.2	—31,841	25,080	—54,566	—100,950
	3 mos.	156	211,387	131	233,439	103,285	165,089	5,279	142,169	444,125	190.3	—210,686	71,209	—268,613	—290,840
Lehigh & Hudson River	March	96	230,251	.....	230,786	28,371	39,210	8,779	94,302	179,724	77.9	51,062	22,474	9,583	40,430
	3 mos.	96	698,578	.....	700,669	87,382	116,827	27,451	283,472	543,927	77.6	156,742	66,762	31,622	62,177
Lehigh & New England	March	191	423,901	.....	429,593	128,650	112,831	10,938	158,786	442,306	103.0	—12,713	23,849	5,687	113,943
	3 mos.	191	1,402,429	.....	1,420,261	290,532	332,408	33,079	486,825	1,239,577	87.3	180,684	140,587	132,129	271,417
Lehigh Valley	March	1,252	5,198,664	303,235	5,773,384	740,257	1,050,229	136,454	2,553,122	4,735,601	82.0	1,037,783	359,678	550,651	596,221
	3 mos.	1,252	15,463,055	1,013,912	17,332,864	2,263,125	2,924,889	423,552	7,959,369	14,332,034	82.7	3,000,830	1,200,848	1,310,868	771,895
Louisiana & Arkansas	March	756	1,510,825	60,357	1,634,607	205,269	180,098	57,083	503,178	1,000,605	61.2	634,002	250,541	309,240	248,932
	3 mos.	756	4,203,051	181,582	4,562,963	596,318	537,269	155,308	1,499,782	2,943,247	64.5	1,619,716	626,456	770,825	724,889
Louisville & Nashville	March	4,775	13,379,160	1,118,811	15,507,347	2,417,443	3,362,905	292,614	5,400,625	13,096,505	84.5	2,410,842	1,556,413	1,172,214	1,485,499
	3 mos.	4,771	40,611,138	3,583,569	47,078,313	6,836,424	10,231,763	907,902	19,719,640	39,518,256	83.9	7,560,057	4,975,768	3,830,028	4,119,845

Table continued on next left-hand page

and later held the positions, successively, of service engineer, salesman, assistant eastern manager and vice-president. Mr. Ruppert was elected president in 1943.

OBITUARY

Frank B. Bell, founder and chairman of the board of the Edgewater Steel Company, died on May 6, after an illness of several weeks. Mr. Bell was born in Mercer, Pa., on September 24, 1876, and attended the public schools there. He obtained a degree in mechanical engineering from Lehigh University in 1897 and received a doctor of engineering degree from that university in 1944. Mr. Bell was appointed assistant open hearth superintendent for the Clairton Steel Company after several years' experience in the steel industry with various Pittsburgh, Pa., firms. In 1905 he was appointed assistant superintendent of the Latrobe Steel & Coupler Co., Melrose Park, Ill. He left that company in 1908 to build the Inter Ocean Steel Company plant at Chicago Heights, Ill., which later became part of the Railway Steel Spring Company, now a subsidiary of the American Locomotive Company. In 1916, Mr. Bell returned to Pittsburgh and organized the Edgewater Steel Company, to produce railroad wheels, tires, and rings with a mill he designed that utilized a new rolling principle. He also had been chief of the Pittsburgh district of the Army Ordnance Association since 1930.

Frank B. Bell

FINANCIAL

White Sees Real Threat Of Government Ownership

"Government ownership of railroads will occur in less than 10 years" unless there is a change in the public attitude toward transportation problems, William White, president of the Delaware, Lackawanna & Western, told stockholders of that road at their annual meeting in New York on May 10.

"All railroads," Mr. White said, "are at a competitive disadvantage, owing to subsidized transportation services. Unless such subsidies are corrected, the process of slow strangulation of the railroads, which has existed for 25 years, will continue, and nationalization might come, due to inertia upon the part of the public. . . . That will be only the beginning of widespread government ownership of industry." So far as truck subsidies are concerned, Mr. White expressed the view that the situation will have to be corrected by the state legislatures.

Mr. White also said he deplored the fact that the railroad industry had not been allowed by regulatory authorities to earn more during the prosperous war and postwar years, and thought an 8 per cent return would not have been excessive, in view of "50-cent dollars" and prevailing high wages and prices.

L. V. Security Holders Assent to Reorganization

Holders of more than the required 75 per cent of each class of securities affected by the proposed reorganization of the Lehigh Valley under the so-called Mahaffie Act have assented to the readjustment plan, according to an announcement made at New York on May 10 by C. A. Major, president of the company. The Lehigh Valley thus becomes the first major carrier to utilize the provisions of the 1948 law (Section 20b of the Interstate Commerce Act) under which railroads may modify their bond structures according to plans which meet the approval of the Interstate Commerce Commission and holders of three-quarters of each issue involved.

"We are particularly gratified," Mr. Major's statement said, "that our plan has been so well received that in the short space of 12 weeks the holders of seven different bond issues and of the common stock, representing in all $190 million in face amount of security values, have signified approval by the requisite percentage.

"This response means that the Lehigh Valley is in position to meet satisfactorily the serious financial problems presented by the approaching maturity of $35 million of senior debt. In view of the two sinking funds provided by the plan and the fact that $2,300,000 of fixed charges will be converted into contingent charges, we are hopeful that our securities will enjoy a higher credit standing."

The reorganization plan, which was outlined in detail in the *Railway Age* of February 19, page 61, was approved by the I. C. C. in that month. The official mailing of the proposed plan to the security holders, pursuant to authorization by the commission, took place on February 16. Supplemental mortgage indentures necessary to put the plan into effect are expected to be ready next week.

Erie.—*Control of Leased Lines.*—This road has withdrawn its application to the Interstate Commerce Commission for authority to acquire, through stock ownership, control of the Goshen & Deckertown and the Montgomery & Erie, both of which it now operates under lease (see *Railway Age* of March 5, page 70).

Gulf, Mobile & Ohio—*Acquisition of K. C., St. L. & C.*—Division 4 of the Interstate Commerce Commission has authorized this road to purchase the properties of its subsidiary, the Kansas City, St. Louis & Chicago, and to assume direct liability for the latter's guaranteed, 4½ per cent, rst-mortgage bonds, which are outstanding in the amount of $2,083,800. The Kansas City was part of the former Alton which operated it under a perpetual lease. It thus came under control of the Gulf when the latter acquired the Alton and assumed the lease. The transactions now approved by the commission contemplate that the Gulf will cancel the debts now due it from the Kansas City; terminate the lease; and surrender for cancellation the Kansas City's capital stock, all of which is held by the Gulf. The Kansas City company will then be dissolved with resultant annual savings of about $30,000, including $25,000 in taxes and $5,000 in corporate expenses. Also, the new setup is expected to facilitate the financing of capital improvements. The bonds for which the Gulf will assume direct liability (it is now the guarantor) are dated May 31, 1947, and mature May 31, 2022. Their indenture includes sinking-fund provisions.

In acting favorably on the Gulf applications, Division 4 followed recommendtions of the proposed report made in the proceeding (Finance Docket No. 16325) by Examiners Jerome K. Lyle and F. E. Grutzik. Thus, like the examiners, it was unmoved by the plea of interveners who contended that favorable action would be adverse to interests they represent—an estate owning $348,000 of the Kansas City bonds which were received in exchange for K. C. preferred stock on consummation of the Alton reorganization (see *Railway Age* of April 2, page 58).

New York, Chicago & St. Louis.—*New Director.*—James H. Coolidge, vice-president and treasurer of Thompson Products, Inc., and a director of the Wheeling & Lake Erie, has been elected to the Nickel Plate's board of directors to succeed the late Edward J. Fleming.

New Securities

Applications have been filed with the Interstate Commerce Commission by:

Missouri-Kansas-Texas.—To assume liability for $2,550,000 of equipment trust certificates to finance in part the acquisition from General Motors Corporation,

Electro-Motive Division, of four 4,500-hp. Diesel-electric road-freight locomotives, costing $478,302 each and consisting of 2 "A" and 1 "B" units of 1,500 hp. each; and four 3,000-hp. Diesel-electric road-freight locomotives, costing $327,120 each and consisting of 2 "A" units of 1,500 hp. each. Total estimated cost of all the equipment is $3,221,688. Then certificates would be dated June 15, would mature in 30 semi-annual installments of $85,000 each, beginning December 15, 1949, and would be sold on the basis of competitive bids with the interest rate fixed by such bids.

Pennsylvania.—To assume liability for $10,425,000 of equipment trust certificates to finance in part the following equipment:

	Description and builder	Estimated Unit Cost
6	1,500-hp. Diesel-electric "A" unit freight locomotives (Baldwin Locomotive Works)	$182,000
6	1,500-hp. Diesel-electric "B" unit freight locomotives (Baldwin)	157,000
4	1,500-hp. Diesel-electric "A" unit freight locomotives (General Motors Corporation, Electro-Motive Division)	182,500
4	1,500-hp. Diesel-electric "B" unit freight locomotives (Electro-Motive)	154,500
10	1,000-hp. Diesel-electric switching locomotives (Fairbanks, Morse & Co.)	100,000
3	380-hp. Diesel-electric switching locomotives (General Electric Company)	50,300
2	10 single-bedroom, 6 double-bedroom all-stainless steel sleeping cars (Budd Company)	148,000
6	All-stainless steel single dining cars (Budd)	146,000
6	All-stainless steel full dining cars (Budd)	129,000
6	All-stainless steel kitchen-dormitory cars (Budd)	146,000
2	All-stainless steel coach-bar-lounge cars (Budd)	136,000
3	Steel passenger cars (American Car & Foundry Co.)	113,000
2	Steel passenger cars (Pullman-Standard Car Manufacturing Company)	105,000
2	21 single-bedroom, steel sleeping cars (Pullman)	141,000
6	10-single-bedroom, 6-double-bedroom steel sleeping cars (Pullman)	131,000
8	10-single-bedroom, 6-double-bedroom steel sleeping cars (Pullman)	136,000
500	Steel gondola cars (Pennsylvania shops)	5,400

Total estimated cost of all of the equipment is $13,031,250. The certificates would be dated May 1, would mature in 15 annual installments of $695,000 each, beginning May 1, 1950, and would be sold on the basis of competitive bids, with the interest rate fixed by such bids.

Division 4 of the I.C.C. has **authorized**:

Chicago & Western Indiana.—To pledge and repledge from time to time, within a period of 2 years from April 25, as collateral security for notes, all or any part of $780,000 of its first and refunding mortgage bonds, series D, now held in its treasury. Proceeds of the notes, which would be issued within the limitations of section 20 a(9) of the Interstate Commerce Act, would reimburse the C.&W.I. for expenditures on additions and betterments to its property; and for payments made to its lessor, the Belt of Chicago, on account of track changes and improvements made by the latter on the leased property.

Illinois Central.—To assume liability for $5,520,000 of series DD equipment trust certificates to finance in part 1,500 50-ton steel hopper cars at a unit cost of $3,860 and 375 50-ton flat cars at a unit cost of $4,285, all to be built at the I.C.'s Centralia, Ill., shops at a total cost of $7,396,875. The certificates will be dated May 1 and mature in 20 semiannual installments of $276,000 each, beginning November 1, 1949. The commission's report approved a selling price of 99.4715 with a 2¼ per cent interest rate—the bid of Halsey, Stuart & Co. and 11 associates, which will make the average annual interest cost approximately 2.36 per cent. The certificates were reoffered to the public at prices yielding from 1.35 to 2.525 per cent, according to maturity.

Indiana Harbor Belt.—To assume liability for $2,050,000 of equipment trust certificates to finance in part 21 Diesel-electric locomotives and 25 hopper cars at an estimated cost of $2,603,609 (see *Railway Age* of April 23, page 61). The certificates will be guaranteed by the I.H.B.'s proprietary companies—the New York Central, the Michigan Central, the Chicago & North Western, and the Chicago, Milwaukee, St. Paul & Pacific. They will be dated May 1 and will mature in 10 annual installments of $205,000 each, beginning May 1, 1950. The commission's report approved a selling price of 99.519 with a 2⅜ per cent interest rate—the bid of Salomon Brothers & Hutzler and three associates, which will make the average annual interest cost approximately 2.49 per cent. The certificates were reoffered to the public at prices yielding from 1.5 to 2.6 per cent, according to maturity.

Dividends Declared

Albany & Vermont.—$1.25, semi-annual, payable May 16 to holders of record April 30.

Chicago, Burlington & Quincy.—$3.00, payable June 28 to holders of record June 15.

Seaboard Air Line.—5% preferred, $2.50, payable June 30 to holders of record June 10; $1.25, payable September 30 and December 31 to holders of record September 9 and December 9.

West Jersey & Seaboard.—6% special guaranteed, $1.50, semi-annual, payable June 1 to holders of record May 14.

Average Prices Stocks & Bonds

	May 10	Last week	Last year
Average price of 20 representative railway stocks	38.79	38.87	53.14
Average price of 20 representative railway bonds	86.37	86.59	88.66

CAR SERVICE

The Car Service Division of the Association of American Railroads on May 9 issued an embargo against virtually all freight destined for export to the Hawaiian Islands through West Coast ports. C. S. D. Chairman Arthur H. Gass said this was done at the request of the Interstate Commerce Commission to prevent the accumulation of freight cars at West Coast ports which would be caused by a strike of longshoremen now going on in Hawaii. Because freight cannot be unloaded at its destination, steamship lines are not taking on further cargo, he stated. Military or government freight for loading on ships operated by the Army or the Navy is exempt from the embargo.

ORGANIZATIONS

The **Passenger, Ticket & Freight Agents' Association of Texas** held its forty-second annual meeting on May 6 and 7, at the Seybold Guest Ranch, Mineral Wells, Tex. The group was addressed by Loyd Kiernan, manager of special services, public relations department, Association of American Railroads, on the subject, "Where Do We Go From Here?" Miss Velma McPeek, supervisor of passenger train service, Chicago, Burlington & Quincy, spoke on "Women in Railroading."

EQUIPMENT AND SUPPLIES

FREIGHT CARS

10,587 Freight Cars Delivered in April

Freight-train cars for domestic use delivered during April totaled 10,587, including 2,088 delivered by railroad shops, compared with March deliveries of 11,882 cars, which included 2,942 delivered by railroad shops, the American Railway Car Institute has announced. April deliveries included 1,701 box cars, 5,893 hopper cars, 2,012 gondola cars, 440 refrigerator cars, 409 tank cars and 132 cars of other types.

Freight-train cars ordered last month for domestic use numbered 30, all from contract car builders, compared with March orders for 469, which included 200 ordered from railroad shops, the institute said. Freight-train cars for domestic use on order and undelivered on May 1 amounted to 62,569, including 27,246 on order from railroad shops, compared with 73,188 cars on order April 1 and 134,676 cars on order May 1, 1948.

LOCOMOTIVES

The **Chicago & Eastern Illinois** has ordered 14 Diesel-electric locomotive units from the Electro-Motive Division of General Motors Corporation. Included in the order were 10 1,500-hp. road units and 4 1,000-hp. switching units.

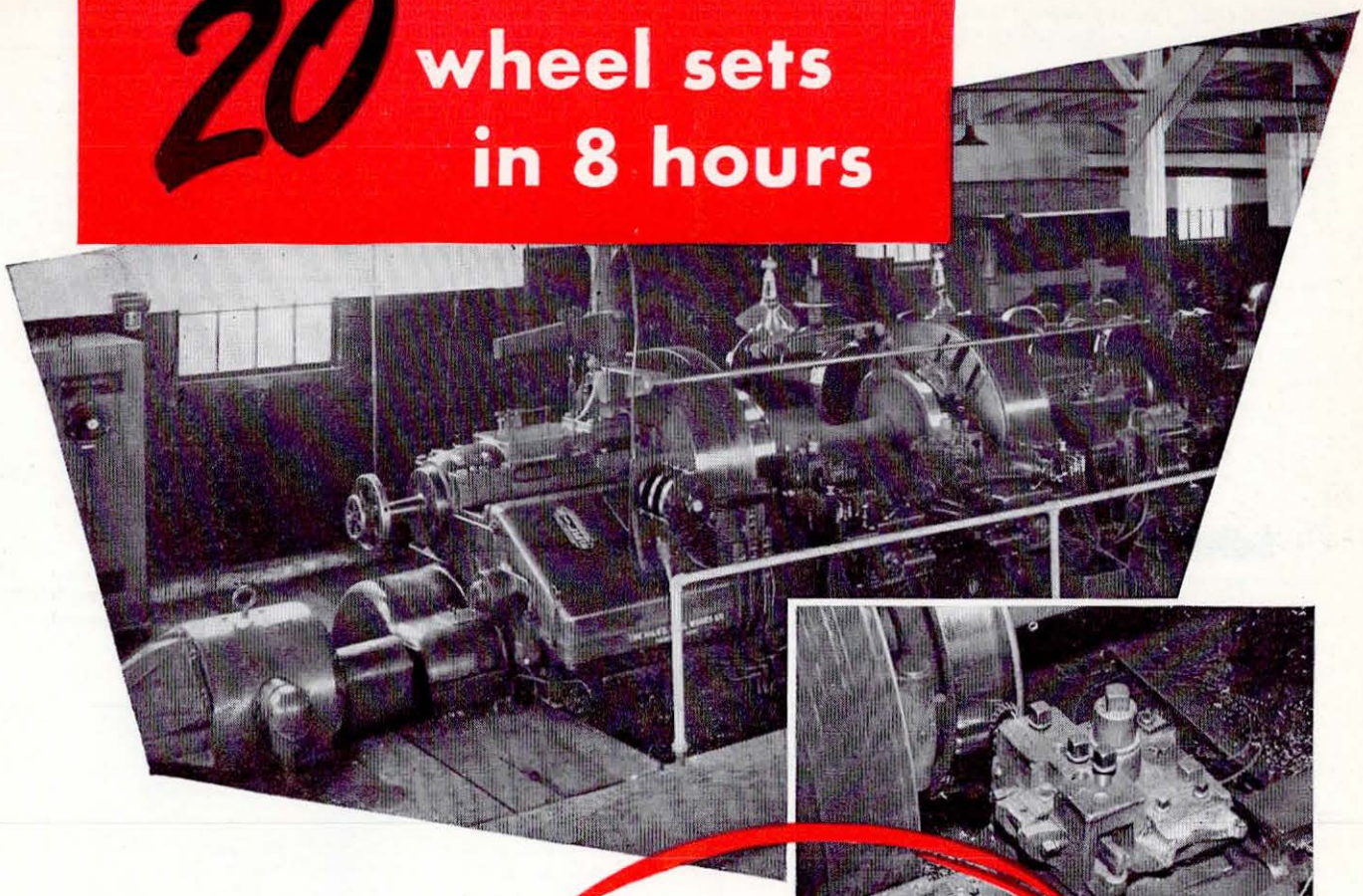
The **Central of Georgia** has ordered five 1,500-hp. Diesel-electric road-switching locomotives from Fairbanks, Morse & Co., and two 1,000-hp. Diesel-electric road switchers from the Baldwin Locomotive Works.

SIGNALING

The American Locomotive Company has ordered five sets of intermittent inductive train control equipment from the

News Department continued on next left-hand page

20 wheel sets in 8 hours



with profiling

The first car-wheel lathe with profiling attachment is now in operation at the Ivorydale shops of the B&O.

The Baltimore & Ohio reports that with this machine a pair of wheels can be turned in 12 to 14 minutes—and that normal production for an 8-hour day is 18 to 20 pairs!

* * *

This Niles profiling attachment is on a standard Niles hydraulic-feed car-wheel lathe. It permits the use of carbide tools—at speeds of 150 to 190 feet per minute with ½" feed per minute. With the carbide tools, shallower cuts can be taken to true up wheels. And a single cut completes the cutting, the finishing, and the flanging cycles, eliminating the use of separate finishing and forming tools.

In addition to the higher production, profiling brings these advantages:

- Both wheels are turned to exactly the same tape size.
- Minor skid flats can frequently be turned out with cuts of as little as ⅛ inch—at a big saving in metal (and wheel life!).
- Because of lower tool pressure, concentricities of .002 to .004 can be obtained—at least equal to those produced by grinding.

For further information, call the Lima-Hamilton sales offices in New York or Chicago, or write directly to Lima-Hamilton Corporation, Hamilton, Ohio.

LIMA HAMILTON CORPORATION

DIVISIONS: *Hamilton, Ohio*—Niles Tool Works Co.; Hooven Owens, Rentschler Co. *Lima, Ohio*—Lima Locomotive Works Division; Lima Shovel and Crane Division.

PRINCIPAL PRODUCTS: Niles heavy machine tools; Hamilton diesel and steam engines; Hamilton heavy metal stamping presses; Hamilton-Kruse automatic can-making machinery; Locomotives; Cranes and shovels; Special heavy machinery; Heavy iron castings; Weldments.

General Railway Signal Company for installation on passenger Diesel-electric locomotives for the **Erie**.

The **Southern Pacific** has ordered from the Union Switch & Signal Company materials to install centralized traffic control on 3 mi. of single track from Alhambra, Cal., west to Aurant, as an extension of an existing installation between Alhambra and Indio, Cal. The order includes a 2-ft. 6-in. section to be added to the existing control machine; code apparatus, relays, style M-22A dual-control switch machines, style H-2 searchlight signals, and housings. Construction work will be done by railroad forces.

CONSTRUCTION

Chicago, Burlington & Quincy.—This road has filed with the Interstate Commerce Commission an amendment to its pending application for commission approval of its plan to shorten its Chicago-Kansas City, Mo., main line. The amendment said that the proposed trackage rights between Birmingham, Mo., and Missouri City Junction would be over 16.05 mi. of Wabash line, instead of 12.57 mi. as stated in the original application; and that the line to be constructed by the recently organized Kansas City & Brookfield between Missouri City Junction and Tina Junction, Mo., would be 42.3 mi. in length, instead of 45.3 mi. Thus the proposed new line would be 22 (instead of 23) miles shorter than the Burlington's present Chicago-Kansas City line. (See *Railway Age* of February 5, page 119, and February 26, page 57.)

Illinois Central.—Division 4 of the Interstate Commerce Commission has authorized this road to construct a 9.45-mi. branch from its main line near Bois, Ill., easterly to a connection with a spur track of the Chicago, Burlington & Quincy. The line will permit the I.C. to participate in serving a new coal-mining development in Jefferson County, Ill.; it is being built pursuant to arrangements with the Burlington and the Missouri Pacific, which will also serve the same mines. As the division's report described the arrangements, they contemplate that the M.P. will build an 0.5-mi. lead track from Scheller, Ill., to a connection with the branch, from which point easterly approximately 1.02 mi. the branch will be built, owned, and operated jointly by the I.C. and M.P. From the eastern end of this joint segment easterly approximately 1.13 mi., to a connection with the Burlington's spur track, the branch will be a joint line of the three roads; this segment will include yard tracks for classification and storage purposes. The estimated total cost of all the construction involved is $1,018,000, of which the I.C. would pay $744,150. The report said the Burlington and M.P. had advised the commission of their view that they required no authorization for construction of their lead tracks and their participation in the construction and ownership of the joint segments and yard facilities. The division found no reason for "disturbing" that conclusion which was based on a contention that such tracks and facilities would be "spurs" within the exemption provisions of the Interstate Commerce Act's section 1 (22).

RAILWAY OFFICERS

OPERATING

Francis E. Harrison, whose appointment as general superintendent of the Chicago, St. Paul, Minneapolis & Omaha (part of the Chicago & North Western System) at St. Paul, Minn., was reported in the *Railway Age* of April 23, was born on December 2, 1902, at Belvidere, Ill. He entered railroad service with the North Western in September, 1923, as a freight brakeman on the Galena division, and, from 1930 to 1942, was a freight conductor on the same division. After serving as a captain in the Army Transportation Corps for more than three years during

Francis E. Harrison

World War II, he returned to the North Western as yardmaster at the Chicago terminal in January, 1946. The same year he was advanced to assistant trainmaster, Galena division, and was subsequently appointed trainmaster at Boone, Iowa. Mr. Harrison was promoted to transportation inspector at Chicago in August, 1947, becoming acting superintendent at Green Bay, Wis., in the following year. From August to November, 1948, Mr. Harrison served as assistant superintendent on the Galena division, after which he was advanced to superintendent, Twin Cities Terminal, C. St. P. M. & O., at Minneapolis, Minn., the post he held at the time of his recent appointment.

W. O. Tracy, Jr., roadmaster of the Dry Fork Line of the Norfolk & Western at Iaeger, W. Va., has been promoted to assistant superintendent of the Radford division, with headquarters at Roanoke, Va., succeeding **J. R. Altizer,** deceased.

W. F. Koehn, who has been on leave of absence on account of illness, resumed his duties as general superintendent of the Ontario district of the Canadian Pacific at Toronto, Ont., on May 5. **G. E. Mayne,** who acted as general superintendent of the district during Mr. Koehn's absence, has returned to his duties as superintendent of the Montreal terminals division at Montreal, Que.

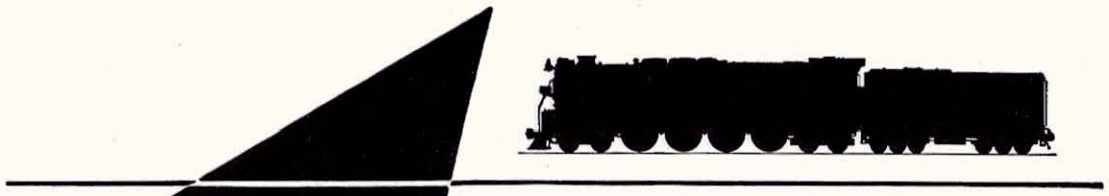
O. W. Limestall, whose promotion to general superintendent of transportation of the Chicago, Rock Island & Pacific at Chicago, was reported in the *Railway Age* of April 23, was born on January 9, 1902, at Fults, Ill., and received his education in the public schools and through university extension work. He entered railroad service in 1918 as a telegrapher

O. W. Limestall

with the Illinois Terminal and two years later joined the Missouri Pacific as telegrapher and dispatcher. In 1922 he returned to the I. T. in his former capacity, rejoining the M. P. in 1923 as telegrapher agent and dispatcher. From 1927 to 1936 he served with the Toledo, Peoria & Western as dispatcher, chief dispatcher, assistant superintendent and superintendent. Mr. Limestall entered Rock Island service in 1936 as trainmaster, and subsequently held the positions of assistant superintendent and general superintendent. He became assistant general manager at Des Moines, Iowa, in June, 1945, in which post he was serving at the time of his recent promotion.

J. W. Murphy, division superintendent of the Atchison, Topeka & Santa Fe's Coast Lines at Needles, Cal., has been appointed division superintendent of the Gulf, Colorado & Santa Fe, with headquarters at Galveston, Tex., succeeding **C. S. Neal,** who has been granted a leave of absence on account of illness.

News Department continued on next left-hand page



Let's be power-thrifty

For years to come some railroads will have steam locomotives. And it is merely business thrift to endeavor to get the most efficient operation possible from such motive power.

In many instances the installation of Security Circulators in existing steam locomotives will prove a profitable investment. Originally developed by American Arch as a support for Security arch brick, road experience has shown that Security Circulators greatly improve steaming performance and aid in many other ways in increasing motive power efficiency.

* * *

For nearly forty years the American Arch Company has been designing and furnishing arch brick for coal-burning locomotives, and a recent development is the Security Dutch Oven for improving combustion in oil-burning steam locomotives.

American Arch Company Inc.

NEW YORK • CHICAGO

TRAFFIC

The Grand Trunk Western has announced the appointment of **B. H. Thome** as general agent at New York, succeeding **E. A. Russell,** whose transfer to Toledo, Ohio, was reported in the *Railway Age* of April 2.

Samuel W. Seeman, passenger representative of the Pennsylvania at Newark, N. J., has been promoted to district passenger agent at Denver, Colo., succeeding **George W. P. Roach,** who has been transferred to Pittsburgh, Pa., in the same capacity.

Dennis L. Dawson has been appointed general agent of the Kansas City Southern Lines at San Francisco, Cal., succeeding **L. A. McDaniel,** transferred.

J. H. Norton, traffic manager of the Atlantic region of the Canadian National at Moncton, N. B., retired on pension on May 1. Mr. Norton was born at Shaftsbury, England, on April 21, 1884, and entered railroad service in 1899 as junior clerk and messenger in the car service department of the Intercolonial (now C.N.R.). He then served as secretary to general freight agent and as assistant chief clerk in the general freight office of the Canadian Government Railways (now C.N.R.) at Moncton. Mr. Norton became division freight agent at Halifax, N. S., in 1917; assistant general freight agent at Moncton in 1919; general freight agent at Moncton in 1943 and traffic manager at Moncton in 1944, all with the C.N.R.

Carl M. Gautwick, whose promotion to general freight agent of the Northern Pacific at Chicago was reported in the *Railway Age* of May 7, began his career at that point on August 12, 1911, as a messenger for Traders Despatch, and subsequently served with the Canadian Northern (now part of the Canadian National) as clerk at Pittsburgh, Pa., and Chicago. In 1918 he joined the United States Army, and the following year became chief rate clerk for the Grand Trunk (also part of C.N.). He joined the N.P. in 1922 as a clerk, and was appointed traveling freight agent in 1924 and commercial agent in 1936. He advanced to assistant general freight agent in December, 1945, which position he held at the time of his recent promotion.

PURCHASES & STORES

D. H. Phebus, acting general storekeeper of the Chicago, Milwaukee, St. Paul & Pacific at Milwaukee, Wis., has been appointed general storekeeper at that point.

ENGINEERING & SIGNALING

C. S. Wilson, chemist for the Southern Pacific Lines in Texas & Louisiana, has been appointed engineer of tests, at Houston, Tex. His former position has been discontinued.

SPECIAL

H. E. Greer, Jr., has been appointed chief of personnel of the Reading, with headquarters at Philadelphia, Pa., succeeding **L. R. Mumper,** who, at his own request, has been assigned to other duties.

OBITUARY

Alex Grant, formerly superintendent of transportation for the Alton (now part of the Gulf, Mobile & Ohio) at Chicago, and who retired in 1947 as assistant superintendent of transportation of the G. M. & O. at Mobile, Ala., died at the Wesley Memorial hospital in Chicago on April 20.

Guy S. McCabe, who retired in 1928 as assistant to traffic manager of the Pennsylvania at Pittsburgh, Pa., died on May 3 of a kidney ailment at the Huntington Memorial hospital, Pasadena, Cal., at the age of 74.

Robert Lee Ettenger, former assistant to the vice-president (mechanical) of the Southern System at Washington, D. C., died there on May 7 at Emergency hospital, after a long illness. Mr. Ettenger, who was 86 years old, retired in 1938.

J. W. Spraker, Association of American Railroads inspector with the Illinois Central and for several years chairman of the A.A.R. Rules Committee of the Car Foremen's Association of Chicago, died of a heart ailment at his home in Chicago on May 5.

Martin Eckert, who retired in 1946 as chief accounting and financial officer of the Missouri Pacific Lines, died at his home in St. Louis, Mo., on May 6, at the age of 76.

Nathaniel L. Howard, who retired in 1929 as president of the Chicago Great Western at Chicago, died on May 6 at Pasadena, Cal., at the age of 65. Mr. Howard served with the Chicago, Burlington & Quincy for a number of years, being superintendent of system transportation in 1923 and 1924. He was general manager of the Chicago Union Station Company before his election as head of the Great Western in 1925.

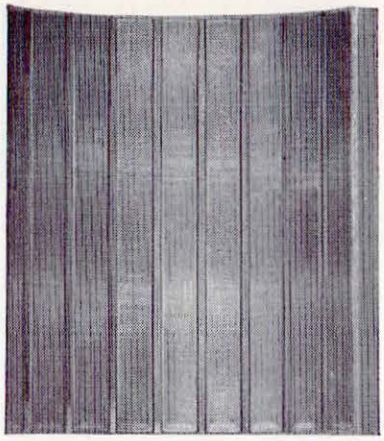
John A. J. Orr, 85, who was for a number of years director of the insurance department of the New York, New Haven & Hartford, died at Bridgeport, Conn., on May 10.

Ralph M. Shaw, late board chairman and general counsel of the Chicago Great Western at Chicago, whose death was reported in the *Railway Age* of May 7, began his legal career in 1892 at Chicago, where he first entered railroad service by defending various roads in personal injury suits. He was born at Paris, Ky., on February 18, 1869, and received his higher education at Transylvania University, Yale University and the law department of the University of Michigan. He joined the law firm of Winston & Meagher in 1893, became a partner five years later and, at the time of his death, on May 3, was senior partner in the successor organization of Winston, Strawn, Shaw & Black. That firm is counsel for a number of railroads, and Mr. Shaw was in personal charge of many important carrier cases. He represented the Pullman interests in the anti-trust suits which brought about divorcement of the sleeping car business from the manufacturing business, and handled a number of railroad reorganizations. The latter included that of the Chicago, Milwaukee & St. Paul, 1925-1928, in which Mr. Shaw served as counsel for the trustees. Among numerous other cases in which he figured

Ralph M. Shaw

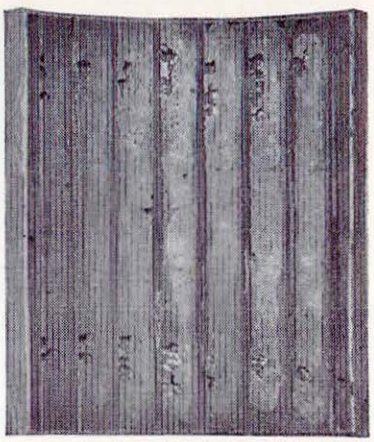
prominently as attorney for carriers were: (1907) Chicago & Alton, wherein an indictment against the road for alleged payment of rebates was dismissed; (1912) Goodrich Transit Company and White Star Lines, wherein it was held that the Interstate Commerce Commission had authority to regulate the accounts kept by water carriers engaged in transportation partly by rail and partly by water under an arrangement for continuous carriage, and that the power of the commission extended to the accounts covering intrastate traffic and non-carrier activities; and (1919) Postal Telegraph Cable Company vs. Chicago Great Western, wherein Mr. Shaw successfully contended before the Supreme Court that the provision of the Interstate Commerce Act which permits a railroad company and a telegraph company to enter into contracts for exchange of services should not be narrowly construed, and should be held to include services rendered by each for the other beyond, as well as along, its lines. Mr. Shaw became assistant general counsel of the Great Western in 1915, and general counsel in 1918. He was elected board chairman of the reorganized company in 1941, and, at the time of his death, was also a director of the Chicago Junction and the Union Stock Yard & Transit Co.

Table of Revenues and Expenses begins on next left-hand page



GOOD

1 Silver wrist pin bushings from research locomotive #601. Corroded bushing on right illustrates what happens when corrosive additives are present in the lubricating oil. Good bushing at left had the same mileage but, thanks to DIOL RD, there is no corrosion.



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ONLY ESSO offers you "tailor-made" diesel locomotive lubricating oils, specially developed in a 3-year field test recently completed by the Esso Research Laboratories.

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FROM THIS TEST came DIOL RD 74 and DIOL RD 76 ...superior diesel locomotive lubricating oils that:

1. **reduce power-robbing engine deposits**
2. **inhibit corrosion**
3. **fight oxidation**
4. **no additive lost**

THE VALUABLE "KNOW-HOW" on diesel operation that was acquired in this important test is now available to the railroad industry...without obligation, of course. For further information, contact the Esso Railroad Sales Div., Esso Standard Oil Co., 15 West 51st Street, New York 19, N. Y.

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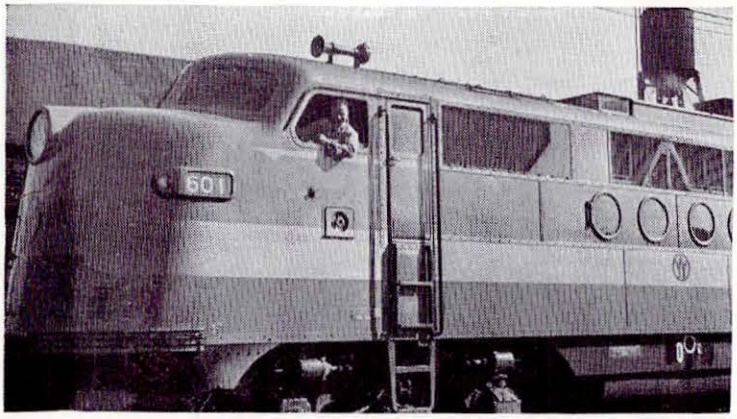
RAILROAD PRODUCTS

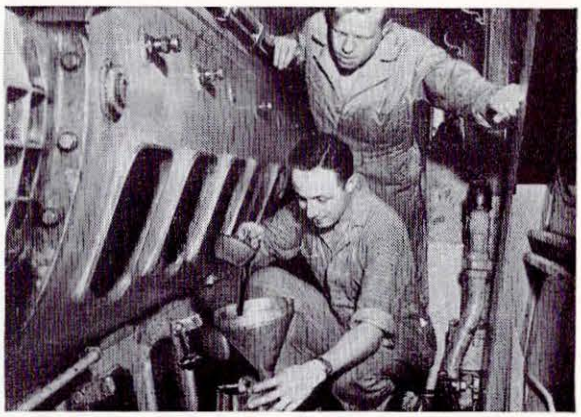
SOLD IN: Maine, N. H., Vt., Mass., Conn., R. I., N. Y., Penna., N. J., Del., Md., D. C., Va., W. Va., N. C., S. C., Tenn., Ark., La.

ESSO STANDARD OIL COMPANY—Boston, Mass.—New York, N. Y.—Elizabeth, N. J.—Baltimore, Md.—Richmond, Va.—Charleston, W. Va.—Charlotte, N. C.—Columbia, S. C.—Memphis, Tenn.—Little Rock, Ark.—New Orleans, La.

ESSO STANDARD OIL COMPANY OF PENNSYLVANIA—Philadelphia, Pa.



2 N. Y., O. & W. Locomotive #601, Esso's laboratory on wheels. Consists of two Electro-Motive, F. T. freight units having V-type, 1,350 hp., 800 r.p.m., 16 cylinder, 8½ x 10 in., two cycle diesel engines *plus* a complete set of special testing instruments.



3 Dr. Leonard Moody, Standard Oil Development Company chemist, watches Clement Bovio, resident technician throughout test, taking crankcase oil samples.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1949

Name of road		Av. mileage operated during period	Operating revenues: Freight	Operating revenues: Passenger	Operating revenues: Total (inc. misc.)	Operating Expenses: Maintenance of: Way and structures	Operating Expenses: Maintenance of: Equipment	Operating Expenses: Traffic	Operating Expenses: Transportation	Operating Expenses: Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income: 1949	Net railway operating income: 1948
Akron, Canton & Youngstown	March	171	395,870	41	417,104	74,571	49,168	29,248	128,252	307,884	73.8	109,220	43,220	52,886	109,211
	3 mos.	171	1,230,145	171	1,281,526	230,668	150,377	87,983	382,470	936,925	73.1	344,601	134,762	161,556	302,887
Atchison, Topeka & Santa Fe System	March	13,103	33,988,273	3,868,781	41,427,618	6,326,264	8,566,147	955,912	13,789,557	31,374,753	75.73	10,052,865	4,874,140	5,024,441	4,808,766
	3 mos.	13,103	93,020,710	12,046,486	115,441,374	17,389,960	24,667,179	2,691,811	41,531,767	91,667,529	79.41	23,773,845	12,866,136	10,828,514	12,589,466
Atlanta & St. Andrews Bay	March	82	146,441	1,112	155,423	30,174	15,566	6,728	44,108	108,715	69.9	46,708	18,221	15,511	30,904
	3 mos.	82	522,603	3,714	547,202	93,395	50,526	20,373	141,409	340,253	62.2	206,949	82,617	80,527	107,748
Atlanta & West Point	March	93	265,907	51,232	363,369	39,641	50,751	15,630	183,080	312,312	85.9	‡ 51,057	26,084	9,763	23,484
	3 mos.	93	757,270	147,942	1,031,666	110,055	156,415	45,397	527,465	908,265	88.0	123,401	75,451	2,754	48,849
Western of Alabama	March	133	271,835	52,432	360,756	48,010	59,241	15,444	159,511	303,225	84.1	57,531	34,788	26,558	34,688
	3 mos.	133	787,349	147,247	1,030,202	132,160	173,045	45,025	470,844	883,996	85.8	146,206	97,732	57,624	114,546
Atlantic Coast Line	March	5,562	10,056,434	2,194,909	13,144,946	1,637,113	2,231,717	303,069	5,003,537	9,758,943	74.2	3,386,003	1,700,000	1,504,195	1,460,036
	3 mos.	5,562	27,801,486	6,537,013	36,896,627	4,782,517	6,243,082	960,843	14,637,053	28,340,370	76.8	8,556,257	3,900,000	3,923,019	4,122,145
Charleston & Western Carolina	March	343	427,110	2,618	442,093	82,546	83,795	16,888	184,983	377,921	85.5	64,172	30,000	24,277	35,853
	3 mos.	343	1,199,500	10,180	1,242,747	248,772	246,243	47,792	523,458	1,096,599	88.2	146,148	85,000	36,960	87,908
Baltimore & Ohio	March	6,201	26,715,721	1,606,309	29,947,758	3,261,901	5,587,331	735,062	12,881,808	23,853,855	79.7	6,093,903	2,637,590	3,048,977	2,273,591
	3 mos.	6,201	80,571,825	5,334,050	90,671,833	9,883,124	18,276,977	2,078,736	38,889,430	73,208,183	80.7	17,463,650	8,003,993	8,627,009	7,343,087
Staten Island Rapid Transit	March	29	178,688	54,651	238,716	54,706	43,615	1,876	133,472	264,772	110.9	—26,056	34,843	76,402	—44,148
	3 mos.	29	535,689	166,869	716,201	130,572	125,232	5,303	386,296	739,291	103.2	—23,090	—127,494	—172,964	—183,612
Bangor & Aroostook	March	602	2,064,609	33,394	2,129,057	251,920	192,199	13,097	454,849	964,803	45.3	1,164,254	510,213	587,188	475,805
	3 mos.	602	4,894,801	108,708	5,094,213	749,360	558,858	35,468	1,180,961	2,665,186	52.3	2,429,027	1,069,463	1,267,682	1,118,248
Bessemer & Lake Erie	March	214	1,071,619	914	1,094,617	174,294	576,146	17,888	408,983	1,249,604	114.2	—154,987	17,216	—15,378	168,962
	3 mos.	214	3,479,607	3,044	3,542,073	479,166	1,549,423	55,179	1,179,859	3,483,901	98.4	58,172	299,302	317,139	535,525
Boston & Maine	March	1,757	5,719,149	997,946	7,354,372	1,073,123	1,109,828	107,317	3,123,657	5,750,182	78.2	1,604,190	632,974	640,947	972,953
	3 mos.	1,757	15,802,574	3,220,121	20,841,109	3,268,433	3,371,414	314,521	9,230,256	17,116,290	82.1	3,724,819	1,682,803	1,144,932	311,909
Burlington-Rock Island	March	228	344,041	47,354	409,671	65,394	33,842	4,969	167,055	291,796	71.2	117,875	8,889	47,327	24,324
	3 mos.	228	939,285	145,715	1,146,718	149,762	113,086	15,911	478,785	822,032	71.7	324,686	26,669	139,784	16,648
Cambria & Indiana	March	35	93,525	.....	93,572	14,877	83,290	872	20,694	128,828	137.68	—35,256	20,014	26,394	8,304
	3 mos.	35	400,565	.....	400,693	42,629	225,954	2,696	74,290	373,174	93.13	27,519	142,644	181,708	88,714
Canadian Pacific Lines in Maine	March	234	740,820	37,540	800,618	73,999	101,736	6,934	277,892	471,866	58.9	328,752	26,529	220,790	168,524
	3 mos.	234	2,126,293	122,567	2,321,600	230,024	306,193	20,939	808,740	1,408,784	60.7	912,816	78,666	580,426	367,527
Canadian Pacific Lines in Vermont	March	90	138,862	15,346	166,954	27,895	34,999	5,410	143,911	219,753	131.6	—52,799	13,177	—100,925	—113,125
	3 mos.	90	423,119	48,778	517,937	98,344	113,737	15,874	438,246	691,571	133.5	—173,634	39,300	—323,721	—399,018
Central of Georgia	March	1,815	2,730,905	262,727	3,266,935	497,386	509,872	111,276	1,514,321	2,807,562	85.9	459,373	210,209	188,150	270,930
	3 mos.	1,815	7,654,560	769,442	9,177,386	1,397,158	1,522,868	334,494	4,409,043	8,187,486	89.2	989,900	623,820	204,718	280,849
Central of New Jersey	March	415	2,483,796	483,174	3,166,066	488,097	609,098	58,779	1,651,743	2,986,063	[94.3	180,003	385,014	—433,135	—111,220
	3 mos.	415	7,319,788	1,473,933	9,414,105	1,374,443	1,830,429	162,414	5,018,392	8,927,238	94.8	486,867	1,164,362	—1,523,175	—1,815,173
Central of Pennsylvania	March	212	1,330,894	13,154	1,379,312	123,400	245,456	24,592	452,877	901,397	65.4	477,915	62,558	651,591	892,023
	3 mos.	212	4,180,090	47,903	4,331,381	422,556	798,205	72,180	1,421,491	2,849,330	65.8	1,482,051	187,970	2,053,938	2,128,903
Central Vermont	March	422	694,000	46,000	796,000	149,397	194,432	15,395	375,430	774,606	97.3	21,394	47,212	—63,881	52,181
	3 mos.	422	2,014,000	180,000	2,347,000	395,083	489,831	44,527	1,075,899	2,123,446	90.5	223,554	140,153	—60,049	10,327
Chesapeake & Ohio	March	5,098	19,380,767	683,501	20,988,103	2,709,493	4,494,194	562,444	8,289,438	17,205,180	80.2	3,782,923	2,152,246	1,744,094	1,514,085
	3 mos.	5,098	66,031,218	2,301,846	77,105,039	9,797,086	13,782,639	1,768,489	26,463,732	55,258,409	77.7	15,846,630	8,248,926	8,437,898	6,439,184
Chicago & Eastern Illinois	March	909	2,097,499	278,381	2,629,158	344,092	467,588	100,869	1,055,355	2,122,304	80.7	506,854	169,518	223,304	131,680
	3 mos.	909	5,920,864	955,845	7,590,782	975,313	1,396,336	318,407	3,206,725	6,363,658	83.8	1,227,144	444,918	499,007	400,931
Chicago & Illinois Midland	March	131	542,628	774	561,554	72,877	129,012	25,196	179,400	440,992	78.5	120,562	52,602	60,045	15,480
	3 mos.	131	2,028,247	2,430	2,087,062	248,833	422,190	81,654	610,119	1,464,297	70.2	622,765	258,599	332,371	317,529
Chicago & North Western	March	8,076	11,480,849	1,512,663	14,511,902	2,429,455	3,029,513	307,278	7,389,837	13,904,217	95.8	607,685	1,013,332	—377,842	—362,751
	3 mos.	8,076	31,312,750	4,970,213	40,646,314	6,826,645	9,449,334	894,186	21,872,032	41,357,536	101.7	—711,222	3,069,093	—4,033,500	—2,359,592
Chicago, Burlington & Quincy	March	8,714	16,234,078	1,173,562	19,072,765	2,303,111	3,300,051	475,470	6,668,445	13,524,142	70.9	5,548,623	2,723,004	2,379,764	2,693,190
	3 mos.	8,714	43,651,782	3,832,850	52,191,074	6,899,039	9,704,922	1,316,613	20,114,381	40,192,575	77.0	11,998,499	6,417,923	4,301,872	7,541,422
Chicago Great Western	March	1,500	2,661,340	25,493	2,834,742	481,656	311,370	107,911	1,060,728	2,047,074	72.2	787,668	289,089	262,984	296,993
	3 mos.	1,500	7,483,447	120,128	8,124,658	1,246,638	977,220	324,534	3,325,136	6,103,183	75.1	2,021,475	704,061	691,829	691,923
Chicago, Indianapolis & Louisville	March	541	1,371,669	71,099	1,536,438	265,629	253,215	79,490	595,162	1,282,604	83.5	253,834	77,374	89,110	172,636
	3 mos.	541	3,872,665	272,799	4,422,752	737,204	791,749	239,627	1,784,401	3,824,308	86.5	598,444	236,040	145,388	405,048
Chicago, Milwaukee, St. Paul & Pacific	March	10,670	17,379,260	1,261,501	20,464,036	2,774,661	4,060,676	451,297	9,033,360	17,222,262	84.2	3,241,774	1,404,000	1,427,790	1,191,381
	3 mos.	10,671	47,548,491	4,211,976	56,911,171	8,048,677	12,311,263	1,275,695	27,501,145	51,874,078	91.1	5,037,093	4,173,000	—493,253	920,987
Chicago, Rock Island & Pacific	March	7,620	12,899,078	1,662,688	15,633,472	1,823,878	2,546,228	453,876	5,764,110	11,295,655	72.3	4,337,817	1,857,574	1,714,974	1,396,063
	3 mos.	7,627	35,100,108	5,493,216	43,827,447	4,957,241	6,923,240	1,387,101	17,926,901	33,350,271	76.1	10,477,176	4,669,785	3,683,739	3,121,401
Chicago, St. Paul, Minn. & Omaha	March	1,617	2,364,308	179,599	2,732,607	405,651	474,155	56,644	1,389,345	2,445,425	89.5	287,182	187,069	—4,794	—39,149
	3 mos.	1,617	6,528,797	552,515	7,631,163	1,021,347	1,460,688	173,744	4,140,122	7,157,686	93.8	473,477	550,388	—375,816	—382,368
Clinchfield	March	317	1,323,592	3,910	1,342,783	163,636	304,162	35,284	430,689	962,034	71.6	380,749	154,325	258,153	665,119
	3 mos.	317	4,050,478	12,845	4,100,408	516,954	878,041	101,749	1,237,346	2,823,450	68.9	1,276,958	465,665	939,793	1,688,179
Colorado & Southern	March	745	1,071,318	61,658	1,219,189	121,563	223,971	27,063	483,074	907,069	74.4	312,120	112,816	152,277	103,295
	3 mos.	745	2,658,456	211,925	3,113,939	367,100	621,325	76,982	1,401,230	2,620,902	84.2	493,037	259,026	110,578	229,862
Ft. Worth & Denver City	March	902	985,328	105,797	1,188,155	206,219	179,250	44,507	465,271	964,577	81.2	223,578	74,400	98,488	45,172
	3 mos.	902	2,656,848	355,067	3,286,247	533,494	540,762	128,804	1,334,701	2,756,295	83.9	529,952	187,487	224,919	270,684

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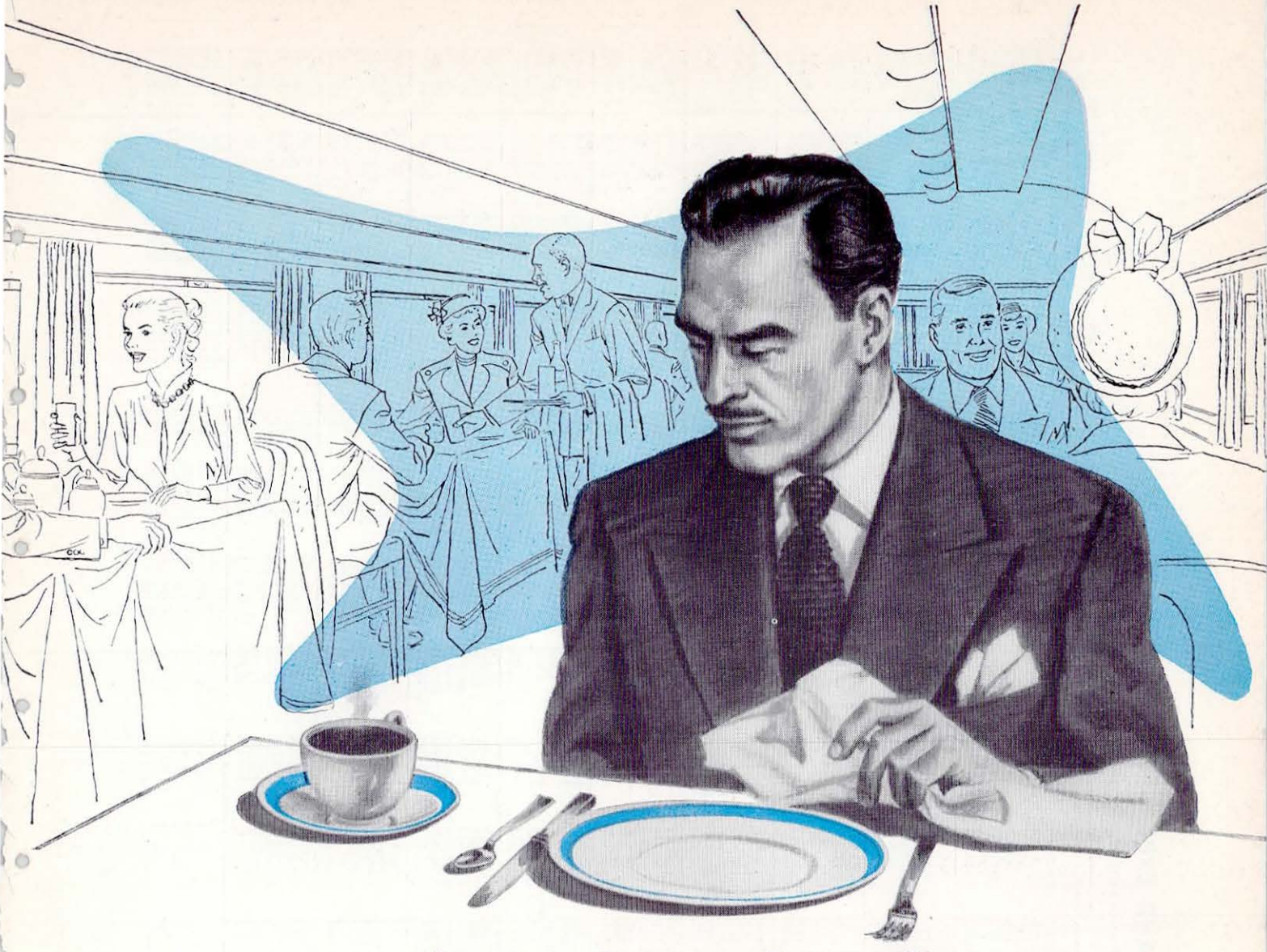
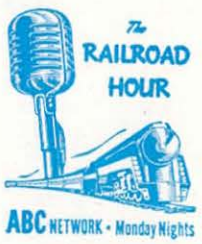


do you know the coffee cup test of Smooth Train Operation?

It's not listed in any engineering text . . . but a full coffee cup sitting in a clean, slopless saucer on a dining car table tells a lot about the smoothness of the ride . . . and the comfort of the passengers. And in this highly competitive day, these things are highly important.

With all the care and skill in the world, it is difficult to handle a modern heavy, high-speed passenger train without some jerking and jolting . . . unless the brake equipment is designed specifically to do the job. Westinghouse HSC Electro-pneumatic brake equipment gives the precise, velvet-smooth control that is needed. Braking impulse is transmitted to every car in the train simultaneously. The Speed Governor Control automatically proportions the brake pressure to the speed. The "AP" Decelostat immediately softens brake pressures if wheel slip impends.



Westinghouse Air Brake Co.

WILMERDING, PA.

REVENUES AND EXPENSES OF RAILWAYS

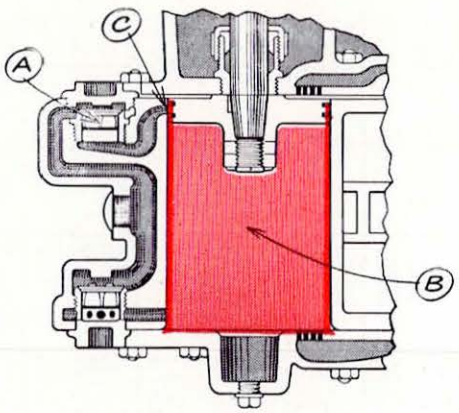
MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1949

Name of road		Av. mileage operated during period	Operating revenues: Freight	Operating revenues: Passenger	Operating revenues: Total (inc. misc.)	Operating Expenses: Maintenance of: Way and structures	Operating Expenses: Maintenance of: Equipment	Operating Expenses: Traffic	Operating Expenses: Transportation	Operating Expenses: Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income: 1949	Net railway operating income: 1948
Colorado & Wyoming	March	41	151,029	.....	242,784	9,614	26,064	901	97,811	143,119	58.9	99,665	49,217	51,941	58,351
	3 mos.	41	427,450	.....	703,883	35,290	73,165	2,520	275,955	411,289	58.4	292,594	147,864	146,544	159,042
Columbus & Greenville	March	168	170,689	Dr. 8	177,153	38,249	25,679	4,681	46,755	731,833	74.4	45,320	26,536	21,269	26,771
	3 mos.	168	470,069	6	489,247	107,354	80,820	13,532	134,982	386,428	79.0	102,819	59,029	52,404	56,865
Delaware & Hudson	March	794	3,915,123	157,680	4,181,073	510,220	917,774	66,865	1,740,279	3,405,264	81.4	775,899	395,143	346,838	573,917
	3 mos.	794	11,829,542	551,862	12,696,882	1,644,735	2,943,756	209,038	5,368,575	10,693,430	84.2	2,003,452	1,096,785	860,769	1,432,768
Delaware, Lackawanna & Western	March	969	5,581,242	784,218	6,858,855	915,719	1,330,612	152,549	3,205,167	5,841,201	85.2	1,017,654	585,274	421,714	658,288
	3 mos.	969	16,101,125	2,470,445	20,103,343	2,513,660	3,780,944	456,646	9,387,128	16,843,332	83.8	3,260,011	1,786,348	1,403,470	1,606,875
Denver & Rio Grande Western	March	2,443	5,653,114	194,690	6,042,791	674,493	1,149,100	161,982	2,058,487	4,324,027	71.6	1,718,764	752,147	919,227	705,181
	3 mos.	2,443	15,662,576	729,658	17,252,972	1,843,045	3,190,867	455,816	6,447,185	12,754,207	73.9	4,498,765	1,984,749	2,383,257	2,835,836
Detroit & Mackinac	March	232	141,352	914	151,551	31,500	27,978	2,007	39,724	111,309	73.4	40,242	16,641	24,411	44,294
	3 mos.	232	397,208	2,477	431,895	94,500	74,353	5,504	103,083	300,940	69.7	130,955	53,990	81,327	130,175
Detroit & Toledo Shore Line	March	50	588,831	.....	591,591	43,232	49,494	14,585	165,403	287,822	48.7	303,769	96,650	111,829	93,412
	3 mos.	50	1,787,564	.....	1,796,314	116,914	136,838	39,890	518,233	849,119	47.3	947,195	305,482	364,988	323,098
Detroit, Toledo & Ironton	March	464	1,423,547	597	1,469,276	177,958	258,436	27,001	358,798	863,265	58.8	606,011	244,892	309,506	295,276
	3 mos.	464	4,569,509	1,702	4,697,803	475,871	679,298	74,520	1,083,366	2,425,121	51.6	2,272,682	897,260	1,207,605	965,331
Duluth, Missabe & Iron Range	March	575	806,025	1,521	910,483	587,314	523,149	7,954	634,505	1,811,058	198.9	—900,575	114,773	—1,032,571	—1,262,960
	3 mos.	575	1,243,274	5,214	1,425,490	1,851,230	1,464,023	23,798	1,557,928	5,083,608	356.6	—3,658,118	257,964	—3,978,639	—3,677,529
Duluth, Winnipeg & Pacific	March	175	314,000	1,100	317,300	66,676	55,461	4,176	150,247	282,619	89.1	34,661	25,448	—34,023	78,798
	3 mos.	175	898,000	3,400	912,000	171,238	149,503	12,589	438,561	789,834	86.6	122,157	73,731	—54,887	145,830
Elgin, Joliet & Eastern	March	238	3,472,025	2	4,217,887	267,670	574,326	28,779	1,415,054	2,392,318	56.7	1,825,569	693,282	774,295	506,313
	3 mos.	238	10,226,802	9	12,182,735	706,608	1,768,816	84,268	4,200,059	7,089,094	58.2	5,093,641	1,908,666	2,164,712	1,353,007
Erie	March	2,229	11,492,858	586,204	12,854,983	1,492,086	2,467,576	327,643	5,376,523	10,296,481	80.1	2,558,502	1,224,381	1,080,043	1,762,888
	3 mos.	2,229	33,752,067	1,794,738	37,790,361	4,191,287	7,103,648	943,358	16,202,241	30,329,295	80.3	7,461,066	3,483,814	3,061,469	4,011,538
Florida East Coast	March	575	2,294,218	826,268	3,411,000	372,782	445,669	67,489	1,171,395	2,262,517	66.3	1,148,483	478,405	535,000	567,896
	3 mos.	575	5,732,144	2,718,828	9,251,371	1,110,557	1,292,012	198,776	3,273,725	6,503,208	70.3	2,748,163	897,534	1,466,751	1,529,560
Georgia Railroad	March	326	666,131	32,500	745,043	97,754	103,063	30,498	348,117	609,030	81.7	136,013	33,458	124,576	139,379
	3 mos.	326	1,864,493	102,107	2,091,425	305,405	303,916	89,596	1,016,378	1,807,300	86.4	284,125	104,460	232,376	222,883
Georgia & Florida	March	408	252,135	51	255,200	78,077	33,167	15,422	107,582	246,180	96.5	9,020	16,584	—25,783	—18,704
	3 mos.	408	698,361	903	709,317	253,479	104,794	46,448	310,056	750,123	105.8	—40,806	48,713	—140,195	—40,557
Grand Trunk Western	March	971	3,467,000	167,000	3,923,000	596,890	649,697	63,689	1,800,223	3,271,764	83.4	651,236	245,356	394,294	234,418
	3 mos.	971	10,115,000	526,000	11,453,000	1,721,660	2,131,094	187,443	5,360,139	9,861,021	86.1	1,591,979	727,962	654,345	198,163
Canadian Natl. Lines in New Engl.	March	172	160,000	5,500	189,000	67,336	52,738	2,948	132,252	269,492	142.6	—80,492	22,576	—138,384	—91,682
	3 mos.	172	479,000	20,000	547,000	165,182	181,277	8,629	378,719	767,242	140.3	—220,242	67,728	—384,992	—316,853
Great Northern	March	8,318	14,307,876	761,438	16,173,192	2,716,927	3,333,700	388,379	6,372,932	13,435,859	83.1	2,737,333	1,419,540	996,681	214,954
	3 mos.	8,318	35,850,916	2,446,567	41,471,049	8,212,903	9,379,162	1,028,322	19,256,094	39,701,542	95.7	1,769,507	3,955,934	—3,188,884	406,867
Green Bay & Western	March	224	286,730	5	295,607	63,895	38,184	13,438	94,549	228,852	77.4	66,755	30,145	21,639	49,221
	3 mos.	224	834,333	46	863,549	170,891	105,476	55,330	291,983	662,883	76.8	200,666	97,916	57,673	101,797
Gulf, Mobile & Ohio	March	2,901	5,443,722	392,804	6,266,620	1,070,414	1,131,119	237,977	2,119,725	4,882,020	77.9	1,384,600	587,454	570,200	559,036
	3 mos.	2,901	15,949,593	1,358,682	18,599,974	3,188,029	3,268,859	705,813	6,257,232	14,360,521	77.2	4,239,453	1,724,524	1,673,845	1,565,007
Illinois Central	March	6,552	17,977,725	1,895,881	21,973,163	3,398,600	3,727,619	434,604	8,131,400	16,657,183	75.8	5,315,980	2,688,040	2,394,431	1,859,382
	3 mos.	6,552	51,261,609	5,954,036	63,422,460	9,714,004	11,113,365	1,338,893	24,190,360	49,183,081	77.5	14,239,379	7,366,794	6,182,055	5,447,763
Illinois Terminal	March	474	795,911	111,821	992,512	168,276	118,728	40,491	398,549	773,032	77.89	219,480	113,514	107,278	166,603
	3 mos.	474	2,348,592	334,313	2,946,330	446,435	399,493	112,254	1,190,747	2,283,275	77.50	663,055	334,537	324,058	409,176
Kansas City Southern	March	891	3,144,770	78,097	3,490,344	278,325	391,940	106,521	973,981	1,903,868	54.6	1,586,476	575,000	810,102	793,965
	3 mos.	891	9,141,881	258,163	10,104,312	864,768	1,152,328	291,145	2,838,469	5,541,441	54.8	4,562,871	1,625,000	2,401,823	2,234,213
Kansas, Oklahoma & Gulf	March	328	489,447	706	493,729	63,553	39,742	17,289	128,356	269,814	54.6	223,915	98,295	94,600	67,239
	3 mos.	328	1,459,862	2,295	1,473,869	151,485	122,883	53,283	304,374	779,434	52.9	694,435	299,467	289,410	237,025
Lake Superior & Ishpeming	March	156	110,946	49	126,240	34,425	54,818	1,820	58,032	158,081	125.2	—31,841	25,080	—54,566	—100,950
	3 mos.	156	211,387	131	233,439	103,285	165,089	5,279	142,169	444,125	190.3	—210,686	71,209	—268,613	—290,840
Lehigh & Hudson River	March	96	230,251	.....	230,786	28,371	39,210	8,779	94,302	179,724	77.9	51,062	22,474	9,583	40,430
	3 mos.	96	698,578	.....	700,669	87,382	116,827	27,451	283,472	543,927	77.6	156,742	66,762	31,622	62,177
Lehigh & New England	March	191	423,901	.....	429,593	128,650	112,831	10,938	158,786	442,306	103.0	—12,713	23,849	5,687	113,943
	3 mos.	191	1,402,429	.....	1,420,261	290,532	332,408	33,079	486,825	1,239,577	87.3	180,684	140,587	132,129	271,417
Lehigh Valley	March	1,252	5,198,664	303,235	5,773,384	740,257	1,050,229	136,454	2,553,122	4,735,601	82.0	1,037,783	359,678	550,651	596,221
	3 mos.	1,252	15,463,055	1,013,912	17,332,864	2,263,125	2,924,889	423,552	7,959,369	14,332,034	82.7	3,000,830	1,200,848	1,310,808	771,895
Louisiana & Arkansas	March	756	1,510,825	60,357	1,634,607	205,269	180,098	57,083	503,178	1,000,605	61.2	634,002	250,541	309,240	248,932
	3 mos.	756	4,203,051	181,582	4,562,963	596,318	537,269	155,308	1,499,782	2,943,247	64.5	1,619,716	626,456	770,825	724,889
Louisville & Nashville	March	4,775	13,379,160	1,118,811	15,507,347	2,417,443	3,362,905	292,614	6,400,625	13,096,505	84.5	2,410,842	1,556,413	1,172,214	1,485,499
	3 mos	4,771	40,611,138	3,583,569	47,078,313	6,836,424	10,231,763	907,902	19,719,640	39,518,256	83.9	7,560,057	4,975,768	3,830,028	4,119,845

Table continued on next left-hand page

STANDARD ENGINEER'S CASE FILE

Case 1156—Eliminating Carbon Trouble in Locomotive Air Pumps



LOCOMOTIVE AIR PUMP
HIGH-PRESSURE CYLINDER AND DISCHARGE

After a full year of operation on an engine in main line service, the air discharge valves in the air pump, lubricated with Calol Air Pump Lubricant, were free of carbonaceous deposits ... pistons, rings and lands were also clean. Recommended for both the air and steam ends of Westinghouse and New York locomotive air compressors.

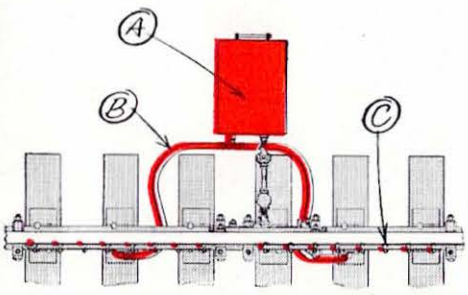
A. Contains special additive—resists oxidation and the formation of lacquer and carbon throughout the pump and especially in critical valves.

B. Prevents development of high temperatures . . . sticks on cylinder walls, pistons and other parts —minimizes oil carry over into air passages and valves.

C. Detergent keeps rings clean and free, air passages open.

Calol Air Pump Lubricant is made of selected stocks with very low carbon-forming tendencies.

Case 1141—Reducing Wear on Rails at Curves



AUTOMATIC RAIL AND FLANGE LUBRICATOR

Car and engine wheels carried Calol Rail and Flange Lubricant and lubricated rails for a distance of more than two miles from an automatic lubricator. Calol Rail and Flange Lubricant is made from a highly water-resistant base and special lubricating graphite.

A. Very stable in use and storage — will not separate in any climate along U.S. railroads . . . will not wash off rails or flanges.

B. Pumps freely from lubricator — suitable for use in temperatures from below zero F. to over 160 degrees above.

C. Forms and retains "button" formation on wiping bar.

Calol Rail and Flange Lubricant has a "short" non-stringy texture. This keeps it on flanges and the sides of rails and minimizes the usual tendency of grease to pull over the tops of rails.

For additional information and the name of your nearest Distributor, write

STANDARD OIL COMPANY OF CALIFORNIA

225 Bush Street, San Francisco 20, California

The California Oil Company
Barber, N. J.—Chicago, Ill.

The California Company
17th and Stout Streets, Denver 1, Colo.

Standard Oil Company of Texas
El Paso, Texas

CALOL

Trademark Reg.
U.S. Pat. Office

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1949

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1949	1948
Maine Central	March	981	2,352,443	124,635	2,597,913	322,085	450,308	17,231	850,357	1,704,642	65.6	893,271	435,060	386,914	260,204
	3 mos.	981	6,330,289	402,641	7,073,565	975,062	1,289,331	55,177	2,389,036	4,898,093	69.3	2,175,472	1,071,425	899,639	570,139
Midland Valley	March	334	154,352	4	157,596	38,506	25,482	3,340	56,215	130,906	83.1	26,690	19,772	—1,012	9,343
	3 mos.	334	460,362	25	470,320	100,491	53,197	10,956	162,865	348,425	74.1	121,895	67,124	27,144	62,871
Minneapolis & St. Louis	March	1,421	1,575,294	7,089	1,629,021	271,825	259,307	113,627	589,656	1,325,646	81.4	303,375	154,252	122,801	90,097
	3 mos.	1,421	4,495,261	27,737	4,655,196	783,662	745,024	320,358	1,690,335	3,805,276	81.7	849,920	457,853	338,543	291,235
Minn., St. Paul & S. Ste. Marie	March	3,224	2,336,528	63,497	2,558,590	540,992	537,103	62,104	1,191,838	2,436,064	95.2	122,526	184,192	—83,166	—338,052
	3 mos.	3,224	6,094,434	228,764	6,740,839	1,637,497	1,620,170	186,686	3,531,329	7,285,290	108.1	—544,451	537,273	—1,226,344	—1,289,597
Duluth, South Shore & Atlantic	March	530	395,407	10,689	430,527	101,650	102,974	18,373	220,224	454,333	105.5	—23,806	23,060	—71,052	62,733
	3 mos.	530	1,194,789	28,083	1,281,531	294,928	299,033	56,956	651,085	1,335,046	104.2	—53,515	68,495	—174,489	91,369
Spokane International	March	152	175,686	1,544	188,735	42,643	18,833	4,376	68,561	144,301	76.5	44,434	10,476	23,521	33,126
	3 mos.	152	381,508	4,318	423,024	132,904	57,505	12,225	199,620	430,327	101.7	—7,303	32,958	—73,746	37,177
Mississippi Central	March	148	205,169	27	210,276	51,446	23,142	12,752	52,540	148,102	70.4	62,174	24,673	22,797	13,664
	3 mos.	148	591,414	6	605,006	141,602	67,780	38,270	159,312	433,286	71.6	171,720	72,521	51,534	49,454
Missouri-Illinois	March	172	363,264	161	365,812	70,904	47,727	7,494	98,666	229,404	62.7	136,408	51,152	79,861	68,924
	3 mos.	172	1,065,297	593	1,071,741	173,068	140,123	22,026	287,619	640,824	59.8	430,917	182,625	235,427	224,678
Missouri-Kansas-Texas Lines	March	3,253	5,853,666	361,059	6,696,545	1,043,385	889,372	210,337	2,479,894	4,917,114	73.4	1,779,431	699,497	621,810	477,552
	3 mos.	3,253	16,789,816	1,110,470	19,229,227	2,838,657	2,685,393	677,534	7,813,503	14,888,368	77.4	4,340,859	1,653,559	1,351,270	1,118,093
Missouri Pacific	March	7,007	15,415,933	919,248	17,755,769	2,736,608	2,977,210	414,442	6,798,985	13,539,692	76.3	4,216,077	1,535,827	2,149,368	1,577,160
	3 mos.	7,007	43,490,048	3,022,801	50,702,692	7,246,926	8,782,599	1,253,588	20,719,115	39,803,722	78.6	10,898,970	3,752,136	5,374,694	3,913,344
Gulf Coast Lines	March	1,717	3,044,106	82,479	3,281,522	602,329	463,530	81,557	1,103,310	2,376,298	72.4	905,224	267,044	454,550	907,700
	3 mos.	1,717	9,818,739	293,918	10,613,960	1,863,077	1,299,389	242,267	3,594,100	7,375,486	69.5	3,238,474	919,764	1,571,005	2,429,981
International-Great Northern	March	1,110	2,207,662	150,651	2,627,692	448,084	439,804	52,654	1,131,966	2,187,547	83.3	440,145	115,228	175,797	—31,409
	3 mos.	1,110	6,487,167	495,720	7,763,193	1,376,163	1,255,245	159,086	3,418,227	6,529,197	84.1	1,233,996	343,606	454,836	170,674
Monongahela	March	170	400,698	1,050	406,311	79,632	64,696	920	171,911	320,795	79.0	85,516	90,138	—93,762	—21,507
	3 mos.	170	1,742,785	3,136	1,758,211	249,081	202,818	2,806	613,499	1,083,407	61.6	674,804	275,105	46,991	209,633
Montour	March	51	171,332	.....	172,533	14,502	66,215	829	61,366	152,945	88.6	19,588	38,496	40,022	37,167
	3 mos.	51	636,741	.....	641,958	53,049	221,299	2,535	228,195	537,093	83.7	104,865	140,052	156,559	174,472
Nashville, Chatt. & St. Louis	March	1,051	2,428,829	180,491	2,871,725	467,977	326,765	106,562	1,186,611	2,203,759	76.7	667,966	337,171	294,712	197,456
	3 mos.	1,051	6,773,031	593,667	8,122,421	1,275,710	994,934	318,082	3,455,389	6,390,071	78.7	1,732,350	907,300	794,769	542,667
New York Central	March	10,731	44,394,047	9,064,036	59,704,790	8,093,323	11,231,514	1,052,999	27,264,993	50,641,775	84.8	9,063,015	4,601,991	3,301,273	2,253,026
	3 mos.	10,731	131,704,092	29,611,659	178,756,603	22,004,722	35,166,134	3,081,173	82,842,780	152,831,036	85.5	25,925,567	13,547,518	8,068,909	—2,729,709
Fittsburgh & Lake Erie	March	221	3,369,677	82,957	3,645,079	418,946	930,982	65,452	1,310,729	2,912,601	79.9	732,478	544,339	726,885	761,871
	3 mos.	221	10,221,543	257,684	10,980,384	1,237,908	2,868,782	197,441	3,981,083	8,871,891	80.8	2,108,493	1,692,110	2,231,527	1,910,136
New York, Chicago & St. Louis	March	1,686	8,392,817	132,952	8,714,718	1,134,178	1,400,169	225,624	3,205,662	6,285,033	72.1	2,429,685	952,955	1,117,041	1,600,354
	3 mos.	1,686	24,822,271	379,174	25,771,869	3,346,049	4,058,770	651,412	9,252,583	18,186,980	70.6	7,584,889	2,963,102	3,572,059	3,597,293
New York, New Haven & Hartford	March	1,798	7,575,016	3,901,299	12,709,494	1,713,006	1,738,258	294,393	5,463,281	10,023,591	78.9	2,685,903	1,102,000	903,926	1,086,151
	3 mos.	1,798	21,851,347	12,257,560	37,709,097	5,327,081	5,539,769	745,427	16,383,826	30,491,778	80.9	7,217,319	2,897,000	2,082,353	—1,100,949
New York Connecting	March	21	229,570	.....	244,711	61,578	18,719	.....	30,034	112,698	46.1	132,013	59,819	81,296	26,131
	3 mos.	21	682,343	.....	717,101	187,702	84,193	.....	175,147	454,243	63.3	262,858	190,477	133,802	29,153
New York, Ontario & Western	March	544	511,974	954	559,675	96,905	94,604	29,661	276,186	531,150	94.9	28,525	38,527	—72,259	—113,539
	3 mos.	544	1,497,615	7,214	1,644,904	301,329	284,403	92,423	857,838	1,638,170	99.6	6,734	113,009	—289,950	—513,005
New York, Susquehanna & Western	March	120	356,214	44,232	412,123	48,437	54,061	6,078	188,592	331,197	80.3	80,926	31,515	22,221	75,197
	3 mos.	120	1,012,632	130,398	1,179,743	142,568	161,217	18,734	544,112	954,727	80.9	225,016	91,727	44,916	—11,934
Norfolk & Western	March	2,129	10,694,618	493,365	11,866,629	1,817,979	2,712,273	283,759	4,159,074	9,507,421	80.1	2,359,208	1,521,081	1,487,753	1,573,304
	3 mos.	2,129	37,024,670	1,447,718	40,262,244	5,609,798	8,960,134	795,870	13,213,641	30,207,021	75.0	10,055,223	6,125,755	6,218,168	7,547,042
Norfolk Southern	March	683	731,045	184	757,158	143,026	88,524	44,375	245,064	583,727	77.1	173,431	92,415	60,830	87,463
	3 mos.	683	2,116,163	379	2,189,493	413,053	262,134	130,073	737,511	1,716,901	78.4	472,592	254,946	157,571	143,717
Northern Pacific	March	6,889	11,090,595	471,128	12,482,497	2,547,636	2,573,850	265,234	4,882,978	10,914,821	87.4	1,567,676	1,136,643	744,506	672,381
	3 mos.	6,889	27,862,120	1,651,308	32,179,432	6,867,442	7,488,190	766,414	14,387,391	31,412,637	97.6	766,795	3,388,513	—1,844,197	1,006,073
Northwestern Pacific	March	331	599,170	2,550	627,124	204,935	93,319	4,010	319,093	634,836	101.2	—7,712	35,557	—88,632	22,054
	3 mos.	331	1,616,164	13,064	1,701,528	535,126	256,725	12,465	918,169	1,761,924	103.5	—60,396	108,239	—278,531	—36,963
Oklahoma City-Ada-Atoka	March	132	94,808	Dr. 20	95,403	20,330	4,735	1,359	22,413	52,931	55.5	42,472	17,443	14,203	8,602
	3 mos.	132	252,135	Dr. 19	254,102	52,818	14,253	4,571	64,754	147,700	58.1	106,402	42,824	29,681	20,593
Pennsylvania	March	10,142	55,801,030	12,191,171	74,530,917	8,837,816	15,411,014	1,316,565	34,013,067	62,634,750	84.0	11,896,167	6,504,866	3,928,510	272,616
	3 mos.	10,142	168,920,745	39,871,111	227,926,940	26,652,706	49,793,350	3,781,311	105,072,671	194,501,079	85.3	33,425,861	19,596,691	9,020,948	2,436,711
Long Island	March	376	1,058,311	2,471,183	3,723,598	498,942	700,752	22,067	2,399,160	3,840,443	103.1	—116,845	453,070	—811,349	—570,695
	3 mos.	376	3,187,459	7,182,285	10,925,933	1,828,475	2,500,628	150,251	6,912,767	12,054,942	110.3	—1,129,009	1,389,435	—3,332,860	—2,739,840

Table continued on next left-hand page

ARC WELDING SIMPLIFIES DESIGN... SPEEDS OUTPUT OF HOPPER CARS

Fig. 1. Part of 25 arc welded steel hopper cars turned out daily by the American Car and Foundry Co., Huntington, W. Va., for the Chesapeake & Ohio Railroad.

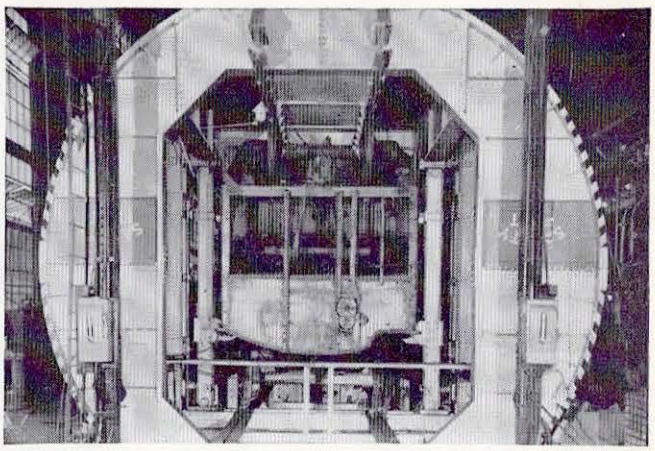


Fig. 2. Hopper car held inverted in "turn-over" type fixture to allow fast, low-cost arc welding with "Automatic Lincolnweld" process.

By A. T. COX
Vice President, Lincoln Electric Railway Sales Co.
Cleveland, Ohio

Straight-line production methods embodying the latest techniques in arc welding and work handling devices result in a daily output of 25 hopper cars at the American Car and Foundry Shops in Huntington, West Virginia, for the Chesapeake & Ohio Railroad. Through welded fabrication, the construction of 7,000 of these 70-ton hopper cars is being greatly simplified, and many costly operations formerly required are being eliminated. In addition, solid welded joints eliminate the corrosion points found in the open lapped joints and ledges that exist in riveted design.

The welding is done with the hidden arc process using "Automatic Lincolnweld" units incorporated in fast, air-operated clamp-type fixtures. The high intensity welding currents used result in faster welding with deeper penetration and eliminate the need for joint preparation. The welding arc is completely hidden in granular flux. Arc rays are invisible; smoke and spatter normally encountered with hand welding are avoided. With welding current and travel rate preset, the operator needs only to start and stop the welding cycle.

Short irregular welds are made with the "Manual Lincolnweld." Similar to the "Automatic Lincolnweld," this process combines the benefits of hidden arc welding in granular flux with the versatility of hand welding with coated electrodes. With the "Manual Lincolnweld," (Fig. 5), the electrode feed is automatic and continuous. The granular flux is directed to the weld from a cone-shaped reservoir on the hand welding gun.

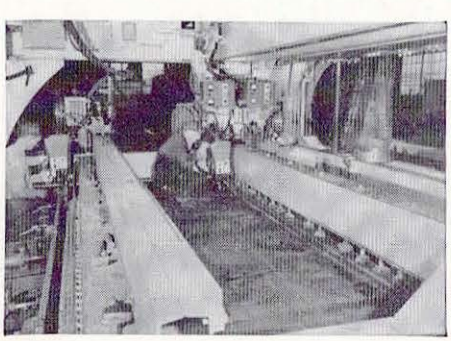


Fig. 3. Arc welding bulb angles and pressed channel side sills to top and bottom of weld-assembled side sheets using the "Automatic Lincolnweld" process.

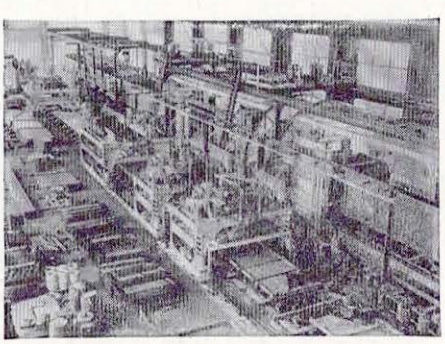


Fig. 4. General view of car shop showing continuous-line production setup for weld-fabricating hopper cars.

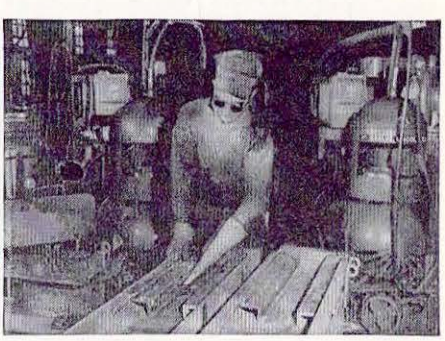


Fig. 5. Hand welding an insert piece to frame channels using submerged arc welding with "Manual Lincolnweld."

The above is published by **THE LINCOLN ELECTRIC COMPANY** *in the interests of progress.*
For further information about arc welding procedures or equipment, write The Lincoln Electric Railway Sales Co., 11 Public Square, Cleveland, Ohio, railroad representatives of The Lincoln Electric Company, Cleveland Ohio.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1949

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1949	1948
Pennsylvania-Reading Seashore Lines	March	386	472,618	158,638	657,912	216,159	184,482	10,293	581,717	1,023,645	155.6	—365,733	88,793	—566,170	—364,522
	3 mos.	386	1,407,109	492,473	1,973,694	597,931	579,636	29,781	1,692,665	2,999,776	152.0	—1,026,082	270,149	—1,632,402	—1,191,148
Pittsburg & Shawmut	March	97	149,700	.....	150,903	24,636	39,293	3,332	45,154	121,773	80.7	29,130	6,252	29,304	41,392
	3 mos.	97	489,295	.....	492,414	70,308	118,185	13,319	155,991	382,495	77.7	109,919	17,379	196,048	126,358
Pittsburgh & West Virginia	March	135	665,869	.....	688,526	101,075	117,962	36,157	171,187	457,621	66.5	230,905	107,383	162,044	159,700
	3 mos.	135	2,104,507	.....	2,171,520	368,060	395,568	123,798	546,266	1,534,799	70.7	636,721	302,811	435,541	434,052
Reading	March	1,324	8,116,650	606,416	9,299,759	1,500,149	1,799,868	130,598	4,012,490	7,782,102	83.7	1,517,657	771,621	671,283	1,209,960
	3 mos.	1,325	25,640,550	2,070,252	29,307,407	4,674,381	6,123,550	393,463	12,237,622	24,371,872	83.2	4,935,535	2,486,224	2,084,197	2,120,957
Richmond, Fredericksburg & Potomac	March	118	1,360,542	577,949	2,224,096	316,963	365,738	21,320	968,442	1,747,717	78.6	476,379	245,456	179,871	214,254
	3 mos.	118	3,870,781	1,836,219	6,421,618	995,813	1,071,299	65,570	2,815,833	5,360,503	83.5	1,061,115	550,137	249,796	617,469
Rutland	March	407	353,957	27,747	456,468	89,361	111,858	14,183	264,712	499,724	109.5	—43,256	31,772	—93,112	66,312
	3 mos.	407	1,017,190	96,724	1,342,362	288,107	324,717	44,310	798,909	1,510,971	112.6	—168,609	95,265	—318,289	—87,273
Sacramento Northern	March	271	160,474	.....	166,477	34,158	19,710	2,182	67,696	174,915	110.5	—17,538	12,726	—42,894	—45,891
	3 mos.	271	424,388	.....	439,121	274,823	62,189	6,292	205,666	577,262	131.5	—138,141	38,970	—210,929	—162,728
St. Louis-San Francisco	March	4,645	7,899,577	506,187	9,067,015	1,468,665	1,527,506	240,853	3,707,621	7,361,471	81.2	1,705,544	826,086	875,144	789,854
	3 mos.	4,645	22,209,145	1,824,216	25,928,354	4,409,087	4,433,393	733,509	10,906,977	21,713,570	83.7	4,214,784	2,268,443	1,969,912	1,777,850
St. Louis, San Francisco & Texas	March	159	335,323	16,203	369,491	49,879	33,032	16,326	153,900	263,220	71.2	106,271	26,446	43,987	35,829
	3 mos.	159	973,298	41,302	1,065,151	147,053	95,052	50,531	474,078	797,689	74.9	267,462	79,337	90,833	64,219
St. Louis Southwestern Lines	March	1,569	5,507,753	49,399	5,751,051	577,194	697,092	142,623	1,728,363	3,323,932	57.8	2,427,119	962,279	1,247,802	1,309,746
	3 mos.	1,569	14,969,093	171,528	15,654,546	1,761,547	2,062,734	430,394	5,193,076	9,954,061	63.6	5,700,485	2,277,609	2,725,165	3,107,493
Seaboard Air Line	March	4,153	9,840,069	1,678,568	12,412,097	2,097,194	2,116,970	330,276	4,631,105	9,752,916	78.6	2,659,181	1,130,629	1,185,599	1,428,011
	3 mos.	4,153	27,679,849	5,141,468	35,324,616	5,726,787	6,213,368	980,486	13,485,652	28,136,626	79.7	7,187,990	3,275,774	3,140,928	3,620,219
Southern Railway	March	6,411	16,166,451	1,398,742	18,948,872	2,844,107	3,334,741	364,929	7,166,484	14,524,253	76.6	4,424,619	2,047,567	2,156,722	2,691,703
	3 mos.	6,411	46,234,617	4,437,486	54,563,902	8,416,368	10,785,578	1,095,428	21,561,817	44,260,053	81.1	10,303,849	4,875,528	4,594,095	7,121,727
Alabama Great Southern	March	316	1,202,580	87,408	1,402,095	208,618	267,993	29,615	473,334	1,056,576	75.4	345,519	201,421	175,621	162,770
	3 mos.	316	3,435,619	293,081	4,019,262	650,142	847,342	90,536	1,391,751	3,147,051	78.3	872,211	524,027	425,714	554,346
Cinn., New Orleans & Texas Pacific	March	337	2,869,099	184,945	3,235,400	433,870	590,278	58,186	989,168	2,186,762	67.6	1,048,638	517,469	591,321	718,158
	3 mos.	337	8,191,891	556,362	9,250,211	1,282,274	1,880,635	174,894	2,895,310	6,580,698	71.1	2,669,513	1,360,201	1,479,916	1,895,983
Georgia Southern & Florida	March	397	548,381	88,633	723,953	143,426	22,467	7,172	218,320	409,767	56.6	314,186	105,054	117,531	64,874
	3 mos.	397	1,446,142	260,404	1,896,325	428,131	158,872	22,166	659,567	1,323,663	69.8	572,662	166,132	171,796	171,013
New Orleans & Northeastern	March	204	751,104	59,526	867,322	117,570	80,860	12,389	203,307	461,803	53.2	405,519	174,191	177,299	209,769
	3 mos.	204	2,171,712	175,625	2,495,792	373,369	269,211	58,846	615,273	1,437,829	57.6	1,057,963	458,321	446,610	612,348
Southern Pacific	March	8,171	29,540,700	3,252,118	35,397,127	4,568,386	7,075,828	743,593	14,284,835	28,631,813	80.9	6,765,314	2,585,771	3,427,645	3,629,824
	3 mos.	8,173	77,928,971	10,149,699	95,151,778	13,371,325	20,102,105	2,114,884	41,921,645	83,319,703	87.6	11,832,075	7,362,055	2,633,310	8,229,677
Texas & New Orleans	March	4,316	8,841,364	717,875	10,210,974	1,440,412	1,449,701	220,472	3,867,836	7,502,648	73.5	2,708,326	1,876,515	375,950	1,489,142
	3 mos.	4,316	25,551,560	2,236,736	29,629,946	4,540,173	4,384,099	648,737	11,734,902	22,779,899	76.9	6,850,047	2,945,765	2,478,776	3,649,291
Spokane, Portland & Seattle	March	945	1,891,138	81,167	2,101,201	396,111	264,345	22,728	699,267	1,470,737	70.0	630,464	146,322	364,067	68,561
	3 mos.	945	4,907,150	276,882	5,516,737	964,510	707,530	67,484	2,258,145	4,273,228	77.4	1,243,509	482,020	462,681	7,996
Tennessee Central	March	286	392,395	2,949	415,821	66,819	60,848	10,158	169,150	325,034	78.2	90,787	27,725	31,814	—12,213
	3 mos.	286	1,105,225	6,726	1,174,215	185,893	160,828	29,696	514,604	942,790	80.3	231,425	80,106	65,175	—170,271
Texas & Northern	March	7.6	106,786	.....	122,851	1,669	8,289	160	41,732	57,572	46.9	65,279	22,209	31,802	.....
	3 mos.	7.6	276,605	.....	321,503	14,493	21,920	1,520	96,106	151,770	47.2	169,733	57,435	80,624	.....
Texas & Pacific	March	1,854	4,687,838	371,587	5,474,289	758,043	880,182	164,155	2,233,351	4,337,838	79.2	1,136,451	370,209	530,617	654,274
	3 mos.	1,854	13,767,999	1,289,917	16,281,850	2,203,581	2,577,275	501,126	6,756,721	12,923,945	79.4	3,357,905	1,039,609	1,635,015	1,853,135
Texas-Mexican	March	162	242,180	.....	269,909	52,815	26,728	5,349	70,551	170,929	63.3	98,980	33,809	47,353	47,163
	3 mos.	162	726,162	.....	803,359	145,873	80,064	17,829	226,013	514,778	64.1	288,581	102,960	130,318	105,173
Toledo, Peoria & Western	March	239	397,125	12	401,293	75,959	29,671	28,309	98,329	258,239	64.4	143,054	57,618	65,471	62,628
	3 mos.	239	1,147,339	38	1,163,303	173,662	79,522	95,137	302,890	725,423	62.4	437,880	170,745	201,420	172,819
Union Pacific	March	9,727	28,600,553	2,231,613	33,445,158	4,129,651	5,446,564	862,577	12,145,574	24,296,558	72.6	9,148,600	2,632,201	5,413,582	2,137,996
	3 mos.	9,727	70,476,143	6,399,391	84,477,268	15,248,333	17,354,947	2,356,346	37,476,055	78,333,146	92.7	6,144,122	7,044,324	—3,749,149	6,299,737
Utah	March	111	200,473	.....	201,676	27,735	56,491	664	79,418	171,830	85.2	29,846	13,427	15,583	—60,265
	3 mos.	111	572,856	.....	574,237	92,748	159,631	2,227	273,440	551,375	96.0	22,862	40,872	—15,534	—26,154
Virginian	March	663	2,092,549	3,982	2,182,868	343,430	633,593	39,087	626,224	1,715,392	78.6	467,476	259,500	289,289	162,276
	3 mos.	663	8,579,010	12,011	8,891,861	1,079,091	2,276,654	113,553	2,170,577	5,833,575	65.2	3,008,286	1,499,500	1,953,038	1,532,651
Wabash	March	2,393	5,414,707	270,753	6,167,334	1,134,268	1,123,307	247,968	2,877,336	5,707,959	92.6	459,375	221,550	—82,900	1,042,932
	3 mos.	2,393	19,225,216	1,170,835	21,902,018	3,197,131	3,458,722	765,593	9,844,778	18,149,758	82.9	3,752,260	1,652,986	1,107,787	3,078,543
Ann Arbor	March	294	503,516	1,684	511,994	84,046	113,511	22,630	261,767	493,798	97.4	13,196	17,702	—14,759	61,837
	3 mos.	294	1,819,966	7,158	1,857,018	236,837	349,960	69,312	880,875	1,580,902	85.1	276,116	143,031	101,164	120,912
Western Maryland	March	837	3,483,586	9,629	3,653,005	503,340	689,548	69,239	1,079,564	2,481,058	67.9	1,171,947	548,000	663,858	523,652
	3 mos.	837	10,879,445	29,421	11,374,647	1,434,759	2,179,537	212,178	3,421,250	7,662,870	67.4	3,711,777	1,755,000	2,162,984	1,868,288
Western Pacific	March	1,195	3,264,374	158,002	3,495,493	487,982	539,370	157,795	1,248,313	2,646,437	75.7	849,056	174,160	623,216	322,073
	3 mos.	1,195	8,334,705	533,625	9,111,367	1,503,571	1,728,311	452,060	3,786,002	8,102,561	88.9	1,008,806	536,678	319,788	961,033
Wheeling & Lake Erie	March	506	2,631,955	.....	2,720,425	365,487	480,695	66,465	815,240	1,809,749	66.5	910,676	498,988	601,067	589,865
	3 mos.	506	7,901,418	11	8,164,798	1,001,796	1,356,288	199,620	2,514,021	5,320,230	65.2	2,844,568	1,527,821	1,905,625	1,793,647
Wisconsin Central	March	1,051	2,194,165	37,416	2,342,406	290,849	358,591	59,490	1,006,841	1,802,766	77.0	539,640	139,870	277,663	325,727
	3 mos.	1,051	6,080,771	109,237	6,505,681	811,112	1,077,981	178,772	2,964,149	5,287,178	81.3	1,218,503	410,130	395,000	462,793

(Continued from page 66)

M. & St. L. Brings Railroad To Stockholders

Recognizing that distance, time or other factors often make it impossible for railroad stockholders to visit or personally inspect the property or operations of the company whose securities they own, the Minneapolis & St. Louis has done the next best thing, by bringing the railroad to its shareholders through the medium of motion pictures.

The road's annual stockholders' meeting at New York on May 10 was featured by the showing of "Fast Freight," a 16-mm. black and white sound movie, running approximately 22 min. The film, which will also be shown to traffic clubs and any other legitimately interested organizations, tells the story of a trip on one of the road's Diesel-powered freight trains from Minneapolis, Minn., to Peoria, Ill. Sequences covering track and equipment maintenance, yard operation, passenger service, and the various cities and industries served by the M. & St. L. are also included.

Canadian Roads Increase First-Class Fares 15 Per Cent

Increases ranging up to 15 per cent in first-class passenger fares on Canadian railroads became effective on May 10, with the approval of the Board of Transport Commissioners. Like the increase in coach fares which, as reported in the *Railway Age* of April 16, became effective on April 9, the present first-class increase is equal to the former 15 per cent passenger transportation tax, which was abolished by the Canadian government on March 23.

The higher first-class fares apply only between points in Canada, and will not affect the practice recently followed by many residents of United States border cities, of crossing into Canada to buy railroad tickets between points in this country as a means of avoiding the 15 per cent tax still in effect here.

Safety Men Meet at Chicago

Declaring that "no railway safety record will be better than the management of that railway demands," S. F. Lynch, general manager of the Illinois Central at Chicago, told a gathering of railroad safety officers in that city on May 4 that the over-all improvement in safety performance on the I. C. during the past few years is largely due to a "top-down" interest. Accidents, he said, constitute a challenge to railway management for two reasons: (1) They are inhumane, producing distress and suffering and, in many instances, complete desolation; and

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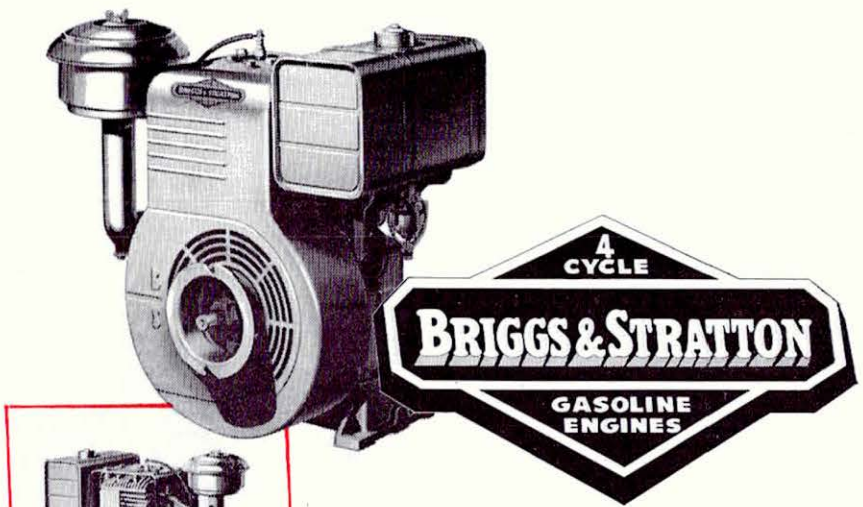

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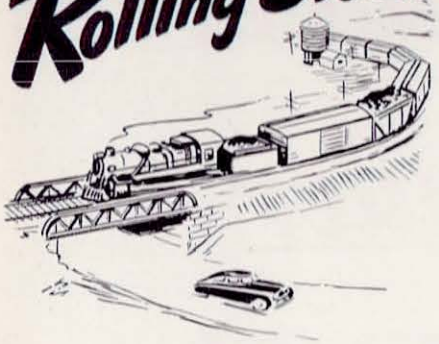

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(2) they inflict an economic loss upon the railroad that produces a serious and unwarranted drain upon the company's treasury.

Appearing with Mr. Lynch on the one-day program of the Midwest Regional Safety Section, Association of American Railroads, in connection with the twenty-sixth annual Midwest Safety Show, May 2-5, inclusive, was George A. Kelly, vice-president of the Pullman Company. Mr. Kelly spoke on the "Safety of Freedom," citing the dangers of, and methods for combating, "creeping Socialism which whittles away individual liberty and constantly increases the cost of freedom." Other talks were given by George R. Huntoon, superintendent of safety, Chicago, Rock Island & Pacific, whose subject was "Psychological Aspects of Railroad Safety," and J. F. Kohout, agent at the Chicago & North Western's Proviso (Ill.) station, who discussed "Safety in the Largest Freight Transfer Station."

Mr. Lynch, in his address, sketched the enviable safety record of the I.C., which reduced its causalty ratio from 14.16 in 1929 to 2.84 in 1948. He credited the following items, among others, with helping to achieve a safer railroad: (1) A "good housekeeping" program; (2) a labor-management suggestion system, which brought about the adoption in 1948 of 1,896 safety suggestions; (3) a plan whereby safety cards are presented to employees in supervisory capacities who are not charged during the previous year with a reportable injury to themselves or to the men they supervised; and (4) visual education in the form of posters, cartoons, movies, slide films and book matches bearing safety slogans.

A.A.R. Protective Section Holds Twenty-Ninth Meeting

Approximately 125 representatives of nearly 50 railroads attended the twenty-ninth annual meeting of the Protective Section of the Association of American Railroads at Edgewater Park, Miss., May 2-4, to listen to addresses and committee reports on, and participate in discussions of, accident and freight claim prevention, railway police training, and other matters of concern to the members.

I. B. Tigrett, president of the Gulf, Mobile & Ohio, was the principal speaker at the section's May 2 dinner meeting, while railroad speakers at the business sessions included D. S. Thomson, vice-president, Eastern region, Canadian Pacific; S. F. Lynch, general manager, Illinois Central; A. L. Green, special representative, Freight Claim Division, A.A.R.; W. H. Bailey, superintendent of safety, Missouri Pacific; J. B. Respess, inspector, Bureau of Explosives, A.A.R., and E. Mason Brown, chief special agent, G.M.&O. Non-railroad speakers were John Kuykendall, assistant attorney general of Mississippi; Sam Lumpkin, lieu-

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tenant governor of Mississippi; Col. Francis E. Howard, deputy provost marshal, United States Army; J. J. Doran, chief inspector, Post Office Department, and Percy Wyly II, special agent, Federal Bureau of Investigation.

The business sessions were also marked by committee reports on law enforcement, presented by committee chairman J. D. Roosa, superintendent of property protection, New York Central; on trespassing, by W. J. Melvin, chief special agent, Chesapeake & Ohio, assisted by R. V. O'Dea, lieutenant of police, Erie; on regional police committees, by W. G. Fetzner, chief special agent, Chicago, Burlington & Quincy; and on railway police training, by H. L. Denton, general superintendent police, Baltimore & Ohio, assisted by T. W. Hamilton, superintendent of police, Eastern region, Pennsylvania, D. L. Wood, chief special agent, I. C., and M. M. DesChamps, chief of property protection, Atlantic Coast Line.

Round table discussions on railroad police and grade crossing accidents were led by W. I. Spitler, chief special agent, Chicago, Indianapolis & Louisville, and E. S. Glass, chief special agent, Norfolk & Western; on Pullman linen losses by H. B. Reed, chief maintenance officer, Pullman Company; on malicious attempts at train wrecking by J. N. Godman, superintendent of police, Reading; and on freight claim prevention by F. G. Love, manager property protection and freight claim departments, N.Y.C., and L. A. Thomas, assistant vice-president, special service and freight claims, Southern System.

Entertainment features of the meeting included a sightseeing trip along the Gulf coast to Mobile, Ala., an informal dinner, and motion pictures furnished by the C.P.R. and the New York, New Haven & Hartford.

A. H. Cadieux, chief, department of investigation, C.P.R., and section chairman, presided at the business sessions and the dinner. On the report of the nominating committee, headed by George A. Shea, director of investigation, Canadian National, G. R. Crowley, superintendent of police, New Haven, and section vice-chairman, was elected chairman for the coming year, to succeed Mr. Cadieux. Mr. Crowley was succeeded as vice-chairman by W. G. Fetzner of the Burlington. J. C. Caviston was reelected secretary.

C. & O. Chesapeake District To Get Three Vista-Dome Cars

Three vista-dome cars which will be available to Pullman passengers on the Chesapeake & Ohio's Chesapeake district are expected to go into operation in June. They will serve travelers between Detroit, Mich., and Richmond, Va., including passengers to and from such points as White Sulphur Springs, W. Va., Williamsburg, Va., Hot Springs and Phoebus. Each of the new dome cars will have three drawing rooms, one bedroom and five roomettes.

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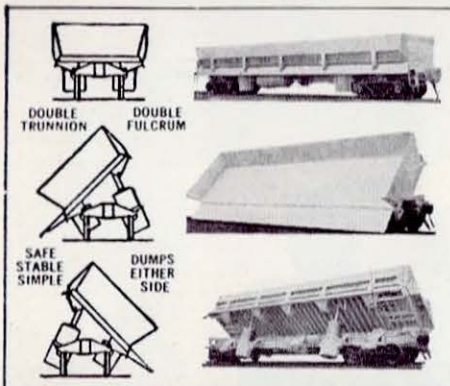

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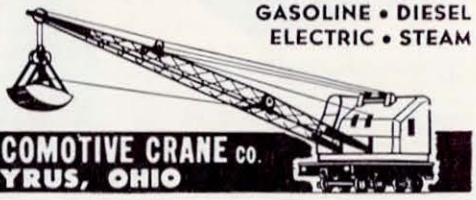

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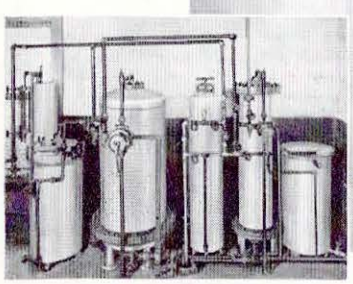

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Advertisers

IN THIS ISSUE

American Arch Company, Inc. 73
American Brake Shoe Company, Brake Shoe and Castings Division 12, 13
American Locomotive Company 16, 17
American Steel Foundries 7
American Steel & Wire Company 20, 21
Armco Drainage & Metal Products, Inc. 28

Baldwin Locomotive Works, The 8, 9
Bendix Aviation Corporation, Radio Division 14
Bethlehem Steel Company 27
Briggs & Stratton Corp. 83
Burroughs Adding Machine Company 85

California Company, The 79
California Oil Company, The 79
Classified Advertisements 88, 89
Cummins Diesel Motivepower Corporation .. 89

Differential Steel Car Co. 86
Dow Chemical Company, The 19

Edwards Co., Inc., The O. M. 29
Electric Tamper & Equipment Co. 15
Esso Standard Oil Company 75
Esso Standard Oil Company of Pennsylvania 75

Fairbanks, Morse & Co. 6

General Electric Company 16, 17
Get Together Department 88, 89
Graver Tank & Mfg. Co., Inc. 87
Great Lakes Steel Corporation 34

Hooven, Owens, Rentschler Co. 71
Hyatt Bearings Division, General Motors Corporation 30
Hyster Company 26

International Correspondence Schools 89
Iron & Steel Products, Inc. 88

Kerite Company, The ..... Inside Back Cover

Lima Hamilton Corporation 71
Lincoln Electric Company, The 81
Luminator, Inc. 22

Magnaflux Corporation 18
Miner Inc., W. H. 3
Mortell Co., J. W. 84

National Pneumatic Company 25
Niles Tool Works Co. 71

Ohio Locomotive Crane Co., The 86
Ohio Steel Foundry Co., The 86
Okonite Company, The 87
Oxweld Railroad Service Company, The ...4, 5

P. & M. Co., The ..... Front Cover
Penetryn System Inc., The 86
Peoples Iron & Metal Co. 89
Portland Cement Association 24

Railway Education Bureau, The 89
Ryerson & Son, Inc., Joseph T. 90

Scullin Steel Co. 10
Simmons-Boardman Publishing Corporation 86, 88
Sperry Rail Service Division of Sperry Products, Inc. 23
Spring Packing Corporation 20, 21
Standard Oil Company of California 79
Standard Oil Company of Texas 79

Timken Roller Bearing Company, The Back Cover

Underwood Corporation 11
Union Carbide and Carbon Corporation .. 4, 5
Union Switch & Signal Co. 32
United States Steel Supply Company 20, 21, 87

Valve Pilot Corporation 86

Western Railroad Supply Company 2
Westinghouse Air Brake Co. 77
Williams Inspection Co., A. W. 89
Willson Products, Inc. 84

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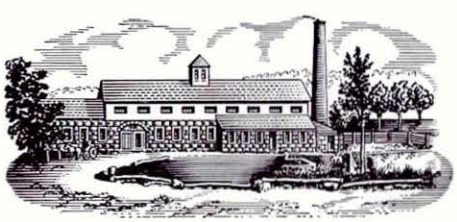

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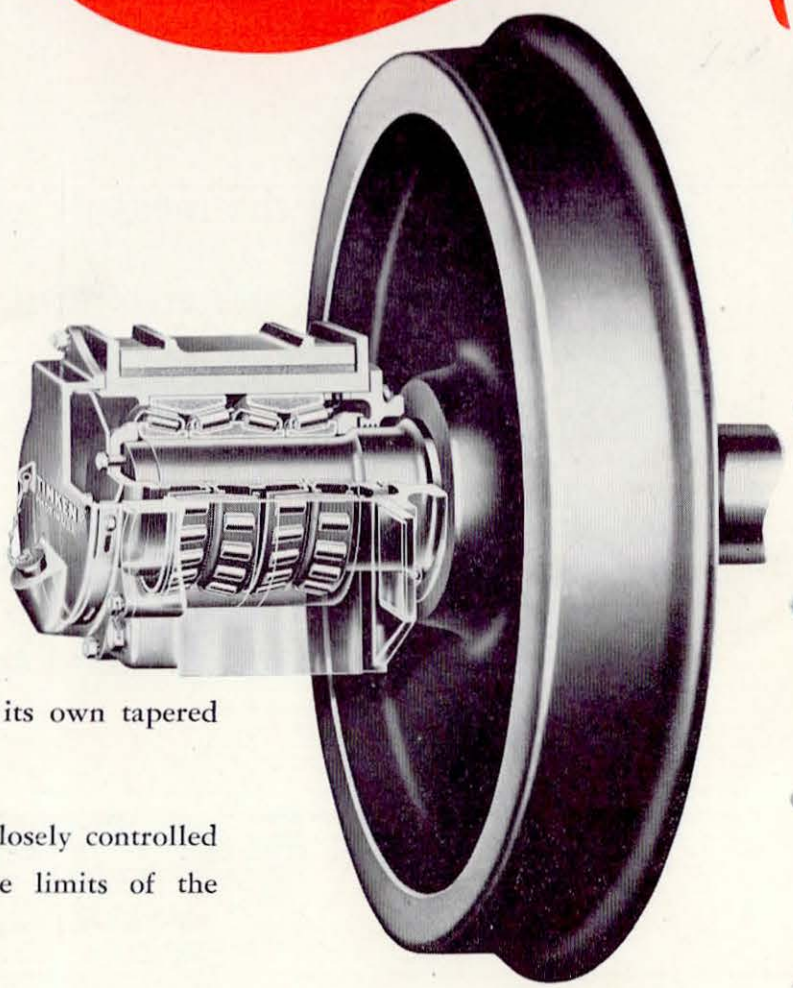

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